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COLOUR VIDEO MONITOR

CVM 3000

TECHNICAL MANUAL / VERSION 2

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CVM 3000

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CVM 3000

INTRODUCTION & CONTENTS

Introduction

This document is made up to help you with service and maintenance of the CVM 3000 Monitor range.

Contents

Technical Specifications

Block Schematic Diagrams & Schematic Diagrams

- Names of Signals
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Adjustment Procedure CVM 3000

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SERVICE SAFETY PRECAUTIONS

WARNING: X-RADIATION

X-RADIATION CAN BE CAUSED IF CRITICAL COMPONENTS ARE REPLACED BY NON-CONFORM COMPONENTS. THESE COMPONENTS ARE MARKED IN THIS SERVICE MANUAL BY AN ✻ .

WARNING: SAFETY

ELECTRIC SHOCK OR FIRE HAZARD CAN BE CAUSED IF CRITICAL COMPONENTS ARE REPLACED BY NON-CONFORM COMPONENTS. THESE COMPONENTS ARE MARKED IN THIS GUIDE BY A ⚠ SIGN.

REPLACE WITH CONFORM TYPES ONLY !

1. Comply with all caution and safety-related notes on or inside the instrument cabinet, on the chassis, or on the picture tube.

2. When service is required, maintain correct lead dress and parts placement. Extra precaution should be taken to assure proper lead dress in the High Voltage circuit area.
Where a malfunction has occurred, those components or circuits that indicate evidence of abnormality should be replaced or corrected. Always use the manufacturer's safety specified replacement components.

3. Do not remove, install or handle the picture tube in any manner unless shatter-proof goggles are worn. People not so equipped should be kept away when picture tubes are handled. Keep the picture tube away from the body while handling.

4. Protective shields are provided on this chassis for the protection of both the service technician and the costumer.
Protection shields removed for service convenience must be re-installed correctly and ANY MISSING SHIELD MUST BE REPLACED. DO NOT OPERATE THIS INSTRUMENT WITHOUT THE PROTECTIVE SHIELDS IN POSITION AND PROPERLY SECURED.

5. After any service intervention, the service technician must be sure that no protective device built into the instrument by the manufacturer has become defective, or inadvertently defeated during servicing.

Therefore, the following checks are recommended for the continued protection of the costumer and service technician.

GROUNDING CONTINUITY TEST

- Remove main plugs from wall outlet.

- With an ohm-meter in its lowest resistance range, measure resistance between the grounding prong of the mains plug and all accessible conductive parts.
THE METER MUST BE READ ZERO OHM.

- The mains plug still being removed from the wall outlet, switch on the instument.
- Switch an ohm-meter in its highest resistance range, measure resistance between the grounding prong of the mains plug and the two other prongs of the mains plug.
BOTH METER READINGS HAVE TO BE MORE THAN 5 MEGOHM (5 Mohm).
ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE THE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND CORRECTIVE ACTION MUST BE TAKEN BEFORE RETURNING THE INSTRUMENT TO THE COSTUMER.

X-RADIATION AND HIGH-VOLTAGE LIMITS

The primary source of X-radiation in solid state display units is the picture tube. The picture tube is specially constructed to limit X-radiation emissions. The shields and mounting hardware for picture tubes have an X-radiation protection function and must be properly in place.
For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter. High voltage is maintained within specified limits by the use of close tolerance safety related components/adjustments in the power supply circuit. Refer to the technician X-radiation warning note on the Chassis Schematic and Instrument Labels in the Basic Service Data for specific high-voltage limits of each chassis and X-radiation Protection Circuits. If high voltage exceeds specified limits, check each component specified in the chassis schematic diagram and take necessary corrective action.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in display units have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by then necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Data and its Supplements and Bulletins. Electrical components having such features are identified by ⚠ or ✻ on the schematics and on the parts lists in this Data and its Supplements and Bulletins. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts lists in this Data and its radiation.

NOTE FOR USERS IN THE UNITED KINGDOM :

IMPORTANT:
The wires of the mains lead are coloured in accordance with the following code:

Green and Yellow: EARTH
Blue: NEUTRAL
Brown: LIVE
Plug fusing value: 5 A

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
- The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked by the letter E of by the safety earth symbol ⏚ or coloured Green and Yellow.
- The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black.
- The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Red.

WARNING : This apparatus must be earthed.

CAUTION : HIGH VACUUM PICTURE TUBE

IS DANGEROUS TO HANDLE.
REFER PLACEMENT TO QUALIFIED SERVICE PERSONNEL.

EMPLOYS X-RADIATION AND INTEGRAL IMPLOSION PROTECTION.
REPLACE WITH A TUBE OF THE SAME TYPE NUMBER AND SUFFIX FOR CONTINUED SAFETY.

X RADIATION WARNING

REPLACEMENT OF CRITICAL COMPONENTS OF THIS APPARATUS (PICTURE TUBE AND OTHERS) CAN RESULT IN EXCESSIVE X RADIATION.
THESE COMPONENTS ARE MARKED IN THE SERVICE MANUAL BY AN ✻ .

- REPLACE ONLY WITH CONFORM TYPES
- SEE SERVICE MANUAL FOR HIGH VOLTAGE ADJUSTMENTS INSTRUCTIONS.

CAUTION : TO DETERMINE THE PRESENCE OF HIGH VOLTAGE, TUBE HIGH VOLTAGES MUST BE DISCHARGED TO CHASSIS.

ACHTUNG

Die in diesem Gerät erzeugte Röntgenstrahlung ist ausreichend abgeschirmt.
Beschleunigungsspannung maximal kV .
Ersatz bestimmter Bauteile kann erhöhte Röntgenstrahlung verursachen. Diese Bauteile sind deshalb in der Bedienungsanleitung mit einen ✻ gekennzeichnet. Nur durch baugleiche Bauteile zu ersetzen!
Zulass. Nummer : BW / / / Rö

Serial number: **Beam current:**

Date: **EHT:**

NOTE :

This equipment has been tested and found to comply with the limits of a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

GEBRAUCH / USE :

NUR FUER GEWERBLICHE ZWECKE
FOR COMMERCIAL USE ONLY

DIESES TECHNISCHE HANDBUCH SOLLTE SORGFÄLTIG GELESEN WERDEN BEVOR DIE NETZSPANNUNG ANGELEGT WIRD

ACHTUNG RÖNTGENSTRAHLUNG !!

ERHÖHTE RÖNTGENSTRAHLUNG KANN VERURSACHT WERDEN, WENN BESTIMMTE BAUTEILE DURCH TEILE ERSETZT WERDEN DIE NICHT DER SPEZIFIKATION DES HERSTELLERS ENTSPRECHEN. SOLCHE BAUTEILE SIND IN DIESER WARTUNGSANLEITUNG DURCH EIN * GEKENNZEICHNET.

ACHTUNG SICHERHEIT !!

WERDEN BESTIMMTE BAUTEILE DURCH TEILE ERSETZT, DIE NICHT DER SPEZIFIKATION DES HERSTELLERS ENTSPRECHEN, SO KANN EIN ELEKTRISCHER SCHLAG ODER BRANDGEFAHR DIE FOLGE SEIN. SOLCHE BAUTEILE SIND IN DIESER WARTUNGSANLEITUNG DURCH EIN ⚠ GEKENNZEICHNET.

WARTUNG
VOR DEM ÖFFNEN DES MONITORS
IST DIESER AB ZU SCHALTEN !

1. Sämtliche Sicherheitsvorschriften auf der Außen- oder Innenseite des Gerätes bzw. auf der Bildröhre sind zu beachten.

2. Ist eine Wartung erforderlich, so ist die richtige Verdrahtung und die korrekte Einbaulage der Teile zu beachten.
   Es ist besonders darauf zu achten, daß im Hochspannungsbereich eine korrekte Lage gewahrleistet bleibt. Nur solche Ersatzteile verwenden, die der Spezifikation gemäß den Sicherheitsvorschriften des Herstellers entsprechen.

3. Vor dem Ausbau der Bildröhre ist die Anodenleitung und die Anode der Bildröhre gegen den Chassisrahmen zu erden, damit eine vorhandene Ladung abgeleitet werden kann.
   Beim Aus- oder Einbau oder bei sonstiger Handhabung der Bildröhre muß eine Schutzbrille getragen werden. Wer keine derartige Schutzbrille trägt, darf sich nicht in den Bereich aufhalten, wo Bildröhren gehandhabt werden.
   Bildröhren sind bei ihrer Handhabung vom Körper weg zu halten.

4. Nach erfolgter Wartung muß der Kundendiensttechniker sicher sein daß während der Wartung keine vom Hersteller eingebaute Schutzvorrichtung beschädigt oder unabsichtlich zerstört wurde.

Es empfiehlt sich daher, zum Schutz der Kunden und des Technikers folgende Kontrollen durchzuführen :

SCHUTZLEITERANSCHLUß UND BERÜHRUNGSCHUTZ

- Netzstecker aus der Steckdose ziehen.
- Mit einem auf kleinsten Widerstandsbereich eingestellten Ohmmeter den Widerstand zwischen der Erdung des Netzsteckers und allen zugänglichen leitenden Teilen messen.
  AM OHMMETER MUß < 0.1 OHM GEMESSEN WERDEN.

- Bei weiterhin gezogenem Netzstecker, das Gerät einschalten.
- Mit einem auf höchsten Widerstandsbereich eingestellten Ohmmeter den Widerstand zwischen der Erdung des Netzsteckers und den beiden anderen Stiften des Netzsteckers messen.
  ES MÜSSEN JEWEILS MEHR ALS 5 MEGOHM ABGELESEN WERDEN.

ERGEBEN DIE MESSUNGEN ABWEICHENDE WERTE, SO KÖNNTE DAS AUF EINE GEFÄHRLICHE BERÜHRUNGSSPANNUNG HINDEUTEN, SODAß ABHILFE GESCHAFFEN WERDEN MUß, BEVOR MAN DAS GERÄT DEM KUNDEN ZURÜCKGIBT.

Die Bildröhre ist Hauptverursacher von Röntgenstrahlung.
Sie hat eine besondere Bauform um die Röntgenstrahlung auf ein Mindestmaß zu begrenzen.
Die Ersatzröhre muß vom gleichen Typ sein wie die Originalröhre, damit ein dauerhafter Schutz vor Röntgenstrahlen gewahrleistet ist.
Durch den Einbau von besonders maßgenauen Sicherheits Bauteilen / Abgleichungen im Netzteil wird die Hochspannung innerhalb der angegebenen Grenzwerte gehalten.
Die für Techniker bestimmte warnende Hinweise im Schaltbild, bezüglich der Röntgenstrahlung sowie die bei jedem Gerät aufgeführten Hochspannungsgrenzwerte sind zu beachten.
Liegen die Hochspannungswerte über den dort aufgeführten Höchstwerten, so muß jedes im Schaltbild spezifizierte Bauteil kontrolliert- und die nötige Abhilfe geschaffen werden.

Viele elektrische und mechanische Teile haben besondere Sicherheitsmerkmale. Bauteile die zu dieser Sicherheitskategorie gehören sind in den Schaltbildern und in der Stückliste dieser Wartungsanleitung sowie in den Nachträgen und Technischen Informationen mit einem ⚠ bzw. * versehen.
Der Einsatz von Ersatzteilen, die nicht den Sicherheitsauflagen, denen die Ersatzteile der Stückliste dieser Anleitung, der dazugehörigen Nachträge und technischen Informationen unterliegen, genügen, kann einen elektrischen Schlag, Brand oder eine übermäßige Röntgenstrahlung zur Folge haben.

ACHTUNG : DIESES GERÄT MUß GEERDET WERDEN !!

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TECHNICAL SPECIFICATIONS

Input Specifications

ANALOG INPUT & DECODER MODULE

Composite input

- Coded A, B, C
  1.0 Vp-p +3/-6 dB
- External Sync (input C)
  0.3 Vp-p ±6 dB
  BNC connectors
  Loop-through
  Floating (can be set to non-floating)
  Return loss : >35 dB up to 5.5 MHz
  Crosstalk : >50 dB up to 5.5 MHz

RGB / Component input

- R 1.0 Vp-p +3/-6 db (composite)
  R-Y 0.7 Vp-p +3/-6 dB
- G 1.0 Vp-p +3/-6 db (composite)
  Y 1.0 Vp-p +3/-6 dB (composite)
- B 1.0 Vp-p +3/-6 db (composite)
  B-Y 0.7 Vp-p +3/-6 dB
  BNC connectors
  Loop-through
  Floating (can be set to non-floating)
  Return loss : >35 dB up to 5.5 MHz
- Y/C (S-VHS) – Video Input
  Y : 0.7 Vp-p ±3/-6 dB
  C : 0.3 Vp-p ±3/-6 dB
  4-pins connector

DIGITAL INPUT MODULES (optional)

Component digital : CCIR Recommendation 601
1 or 2 serial digital inputs
Active loop-through
75 ohms BNC connectors
Four versions : D-1S (one 8-bit input), D-2S (two 8-bit inputs), D-1SH (one 10-bit input) and D-2SH (two 10-bit inputs)

HF INPUT MODULE (optional)

Tuner Input

- Receiving range 42.25 - 891.1875 MHz
- Standards : BG, I, L, L', MN, DK
- Quick programming of 64 channels

Video Out

Composite video output related to the selected tuner channel
1.0 Vp-p on BNC connector

Audio Output

Audio output L+R related to the selected tuner channel – stereo (Dual Sound) mono
+6 dB (1.55 Veff) symetric, fixed or adjustable by volume control (only fixed when an Audio Input module is present)
XLR connectors

SPECIFICATIONS (continued)

AUDIO INPUT MODULE (optional)

Audio inputs

L+R corresponding with selected video inputs :

- CODED A, B, C
- S-VHS
- RGB/Component

0.5 VRMS asymmetric
High impedance
Cinch connectors

Audio Outputs

L+R corresponding with the selected input.
Output level adjustable by the volume control.
Cinch connectors

- Audio power amplifier 2 x 10 W
  Operation mode : Dual Sound / Stereo / Mono
  Bass/Treble adjustment
- Loudspeaker output terminals L+R

CONTROL MODULE

Remote 1/2

Remote facility for operation with :
MMRC : Multi Monitor Remote Controller
SMRC : Single Monitor Remote Controller
MRC 3000 : Infra-Red or wired Monitor Remote Controller
9-pins male/female Sub-D connectors

RGB AND DECODER SPECIFICATIONS

RGB SPECIFICATIONS

Frequency response : 100 kHz to 6 MHz ±0.5 dB

DECODER SPECIFICATIONS

Colour systems : QUAD (PAL, SECAM, NTSC 3.58/4.43 MHz)
Automatic selection of the 4 systems
Standard non-ACC (Automatic Chroma Control) switchable to ACC by menu.
Colour killer: is factory set for burst amplitude of ≤-10 dB (internally adjustable)

Frequency response

- Y-output without notch filter ±1.0 dB till 6 MHz
- Chrominance suppression : -24 dB at 4.43 and 3.58 MHz

Saturation range : ±6 dB
Hue range : ±15°
Chrominance/Luminance delay adjustable by menu independently for PAL/NTSC 4.43, NTSC 3.58 and SECAM.
NTSC set-up elimination : selection possible by menu.

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GENERAL SPECIFICATIONS

DISPLAY PERFORMANCE

- Underscan (corners-in)
  Overscan (+1%)
- 4:3 to 16:9 switchable
- Linearity error : ±1% of picture height
- Geometry error : ±2% of picture height

COLOUR TEMPERATURE PERFORMANCE

- Factory aligned in calibrated position for :
  100% white level : 90 nit = 90 cd/m²
  10% white level : 0.7 nit = 0.7 cd/m²
- Same light output for all size and scan formats
- Peak white level : 180 nit
- Colour temperatures
  6500 K, 3200 K, 9300 K plus 2 user-selectable colour temperatures A and B.

CRT SPECIFICATIONS

Resolution

CRT	Pitch mm	TV-lines -20 dB	MHz
37 IH	0.31	680	7.0
51 IM	0.43	700	7.2
51 IH	0.31	900	10
51 ISH	0.28	950	12
53 FS	0.75	>500	
70 FS	0.80	>500	

Convergence errors (mm)

CRT	Center	Zone 1	Rest
37 IH	0.2	0.3	0.6
51 PS	0.4	1.2	1.5
51 IM/IH	0.2	0.4	0.7
51 ISH	0.2	0.3	0.6

Zone 1 = centred circle with diameter equal to picture height

SCANNING SYTEM

- 625 lines / 50 Hz interlaced
- 525 lines / 60 Hz interlaced

SPECIFICATIONS (continued)

MAINS POWER

- Line voltage (nominal) : 110/220 Vac, ±20 %
- Built-in RFI filter
- Power consumption : typ. 95 W

GENERAL PERFORMANCE

- CRT protection : EHT is switched-off in case of scan failure.
- Temperature range
  +15° to 40° C to meet nominal specs
  0° to 45° C normal operation
  -10° to +60° C storage
- Humidity : up to 95% relative non-condensing (40° C)
- Altitude : normal performance to 3000 m (10000 ft)
- X-ray radiation : less than 0.1 mR/hour at 5 cm from any outer surface under worst failure conditions.
  All units comply with DHHS rules 21CFR Subchapter J; section 1020.10

Dimensions (mm) and WEIGHT (kg)

CVM	3037	3051	3137	3237	3337	3537	3551	3637	3653	3670
Width	448	448	335	448	335	448	448	335	463	595
Height	265	399	265	265	265	265	399	265		
Height °)	287	421	280	287	280	287	421	280	367	470
Depth	454	549	454	454	454	454	549	454	525	543
Weight	19	32	20	19	20	19	32	20	38.5	48.5

°) Height including feet

Dimensions (inch) and WEIGHT (lb)

CVM	3037	3051	3137	3237	3337	3537	3551	3637	3653	3670
Width	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	18.23	23.45
Height	10.43	15.68	10.43	10.43	10.43	10.43	15.68	10.43		
Height °)	11.29	16.57	11.29	11.29	11.29	11.29	16.57	11.29	14.45	18.50
Depth	17.87	21.61	17.87	17.87	17.87	17.87	21.61	17.87	20.67	21.38
Weight	42	71	44	42	44	42	71	44	71.60	107

°) Height including feet

OPTIONAL

Rackmount Kit CVM 3037 / 3237 / 3537
Rackmount Kit CVM 3051 / 3551
BARCO Light Probe
Colour Analyzer TMF 6
MRC 3000 (Infra-Red Monitor Remote Controller)
SMRC (Single Monitor Remote Controller)
MMRC (Multi Monitor Remote Controller)

CVM 3000

BLOCK SCHEMATIC DIAGRAMS
SCHEMATIC DIAGRAMS
VERSION 2

List of Diagrams on following pages

Overall Block Schematic Diagram

P	Switched Mode Power Supply with PCB V752509	V5635050/51/52
E	EHT & Deflection with PCB V752500	V5635090/91/92/93/94/95
	EHT & Deflection with PCB V752500	V5635096/97
A	Analog Input & Decoder with PCB V752276-6&7	V5635003
T	CRT Socket with PCB V752278-5	V5635020/22/23/24/25
	CRT Socket with PCB V752277-4	V5635021
C	Control & Sync with PCB V681061	V5635010/11
	Control & Sync (with SAD) with PCB V752515	V5635015/16
K	Keyboard 3037/3237/3537	V5635070
	Keyboard 3051/3551	V5635071
	Keyboard 3137/3337/3637/3653/3670	V5635075

Backboard (pin configuration)

CVM 3000 Connections for Tally Lights & RIS control

CVM 3000 Connections for Remote Control

MI : Modification Index PCB : Printed Circuit Board VX : Version X

Names of signals on Back Board as used on Schematic Diagrams

Name	Description
-16V	-16 Vdc
+12V PROBE	+12V to Probe (fused on Control & Sync)
+160V	+160 Vdc Supply
+16V	+16 Vdc Supply
+190V	+190 Vdc Supply
+27V	+27 Vdc Supply
+4V	+4 Vdc Supply
+5V	+5 Vdc
+6.3V	+6.3 Vdc Filament voltage
ABL INFO	Automatic Black Level feedback Info
ABL PULS	Automatic Black Level Pulse
AUDIO OUTL	Left Audio Output
AUDIO OUTR	Right Audio Output
BACKL	Backlight
BCL	Beam Curent Limit
BLL-B-Y	-(B-Y) Black Level control
BLL-R-Y	-(R-Y) Black Level control
BRI	Brightness control
CHAR BLUE	Blue Characters
CHAR GREEN	Green Characters
CHAR RED	Red Characters
CLP	Clamping Pulse
CON	Contrast control
CRT BLUE	Blue CRT Socket drive signal
CRT GREEN	Green CRT Socket drive signal
CRT RED	Red CRT Socket drive signal
DEG	Degauss Switch info
DEG COIL 1	Degaussing Coil (fused mains side)
DEG COIL 2	Degaussing Coil
GND	Ground
GND +160V	Ground of +160 Vdc Supply
GND +27V	Ground of +27 Vdc Supply
GND +5V	Ground of +5 Vdc Supply
GND +6.3V	Ground of +6.3 Vdc Filament voltage
GND CRT	CRT Socket Ground
GND VSCAN	Ground of VSCAN
HAM	Horizontal Amplitude Modulation
HBL SPLIT	Horizontal Colour Blanking for Split Field
HBL Y	Horizontal Blanking of Luminance
HLB	Highlights Blue
HLG	Highlights Green
HLR	Highlights Red
HSYNC	Horizontal Synchronization Pulse
HUE	Hue control
INT WF	Internal White Field
IRQ	Interrupt Request
LED FUNC	FUNC LED drive
LED MENU	MENU LED drive
LED RF	RF LED drive
LED VID	VID LED drive
LLB	Lowlights Blue
LLG	Lowlights Green
LLR	Lowlights Red
NICAM C1	NICAM Mode selection line C2
NICAM C2	NICAM Mode selection line C1
NICAM MUTE	NICAM Mute
OPT BLUE	Blue signal from Optional module (Digital inp.)
OPT GREEN	Green signal from Optional module (Digital inp.)
OPT RED	Red signal from Optional module (Digital inp.)

Name	Description
POWER SW1	Mains from input to Power Switch
POWER SW3	Mains after Power Switch to circuits
POWER SW4	Mains after Power Switch to circuits (fused)
RC5 IR RC	Remote Control signal from Infrared
RC5 KEYB	Remote Control signal from Keyboard
RGB SW	RGB Switch info
RX PROBE	Received signal from Probe
SAT	Saturation control
SCL EXT	I2C Clock Pulses
SCP 3507	Sandcastle Pulse for TDA 3507
SCP 4670	Sandcastle Pulse for TDA 4670
SCP DEC	Sandcastle Pulse for Decoder
SCP DEFL	Sandcastle Pulse from Deflection
SDA EXT	I2C Data
SYNC PROC	Synchronization signal to Processor
SYNC SMPS	Sync to SMPS
TAC	Tally Lights' Anode
TKG	Green Tally Light Cathode
TKR	Red Tally Light Cathode
TXT BL	Teletext Blanking
VFLB	Vertical Flyback Pulse
VIES	Vertical Interval Enable Sync
VSCAN	Vertically modulated Scan Voltage
VSYNC	Vertical Synchronization Pulse
Y PPT/DIG	Video from Prise PeriTelevision or Digital Inp.
Y TO PPT	Video from RF to Prise PeriTelevision

CVM 3000 VERSION BLOCK SCHEMATIC DIAGRAM

CODED A
CODED B
CODED C / SYNC
Y RF
Y PPT/DIG
Y SVHS
CHROMA S-VHS
RED / R-Y
GREEN / Y
BLUE / B-Y
SELECTION SWITCH
U26 TEA6415
SDA SCL
CLAMP
P8
SCP / SDI
PROT
VIES
4.43 NOTCH L9,L6,L3
3.58 NOTCH L10,L7,L4
SECAM LOW PASS L8,L5,L2
TP31
TP32
TP30
U8 NOTCH SWITCH
PAL INFO SECAM INFO
U13 LUMA SWITCH
FULL BW
INT WF
A1 A0
AMPL. & FREQ COMP P9, C124
PSI U14 TDA4670
SCP 4670
(R-Y)
(B-Y)
Y
TP39
R-Y
TP33
B-Y
TP34
P6
P7
100-10%
U9/U10 COMP SWITCH
ATT. 100-10%
HBL Y
HBL SPLIT CLP
BLL -R-Y
BLL -B-Y
CLAMP, BLACK LEVEL INSERT & ADJUST P18, SETUP ELIM. P19
HL R
HL G
HL B
COMP / RGB
COMP / RGB & CON,BRI, SAT & AKB
U3 TDA3507
SYST.SW.
COMP SW
U18 PCF 8574A I2C INTER-FACE
A1
A0
SDA
SCL
ACC ON/OFF
SAT KILL
CHROMA BAND-PASS FILTER
ACC ON / OFF
U33 TDA4650 QUAD DECODER
U32 TDA4661 CHROMA DELAY
SYNC PROC
BRI
BCL
CON
SAT
P1
P2
P3
RGB SW
RED1
GREEN1
BLUE1
U4 RGB SWITCH
Y COMP
-R-Y COMP
-B-Y COMP
INFO N3, INFO SECAM,
INFO N4, INFO PAL
U22 I2C INTER-FACE
PLS PR.
R ON/OFF
G ON/OFF
B ON/OFF
I2C PROT
SCP 4670
IRQ
TXT BL
ABL PULS
P4
P5
P21
P22
P14
TP22
TP24
TP26
SCP DEC
HUE
SDA EXT
SCL EXT
INT WF
RGB SW
OPT RED
OPT GREEN
OPT BLUE
SCP 3507
ABL INFO
AKB PULS*
PROT
LL ADJ.PLS INSERT
LL R
LL G
LL B
+10V REF
P23
BRI PULSE
(R)
(G)
(B)
CHAR. CLP &SW & R ON/OFF
CHAR. CLP &SW & G ON/OFF
CHAR. CLP &SW & B ON/OFF
CHAR RED
CHAR GREEN
CHAR BLUE
ON / OFF
CRT RED
CRT GREEN
CRT BLUE
TDA 6100Q
SPOT SUPPR.
DEGAUSS COIL
DEFL. COILS
CRT
ANODE
G1
G2
G3
R
G
B
+6.3V
GND +6.3V
COL. ANAL.
THOMA
LIGHT PROBE
ABL INFO
FOCUS
SCREEN
CRT SOCKET
T
ANALOG INPUT & DECODER
A

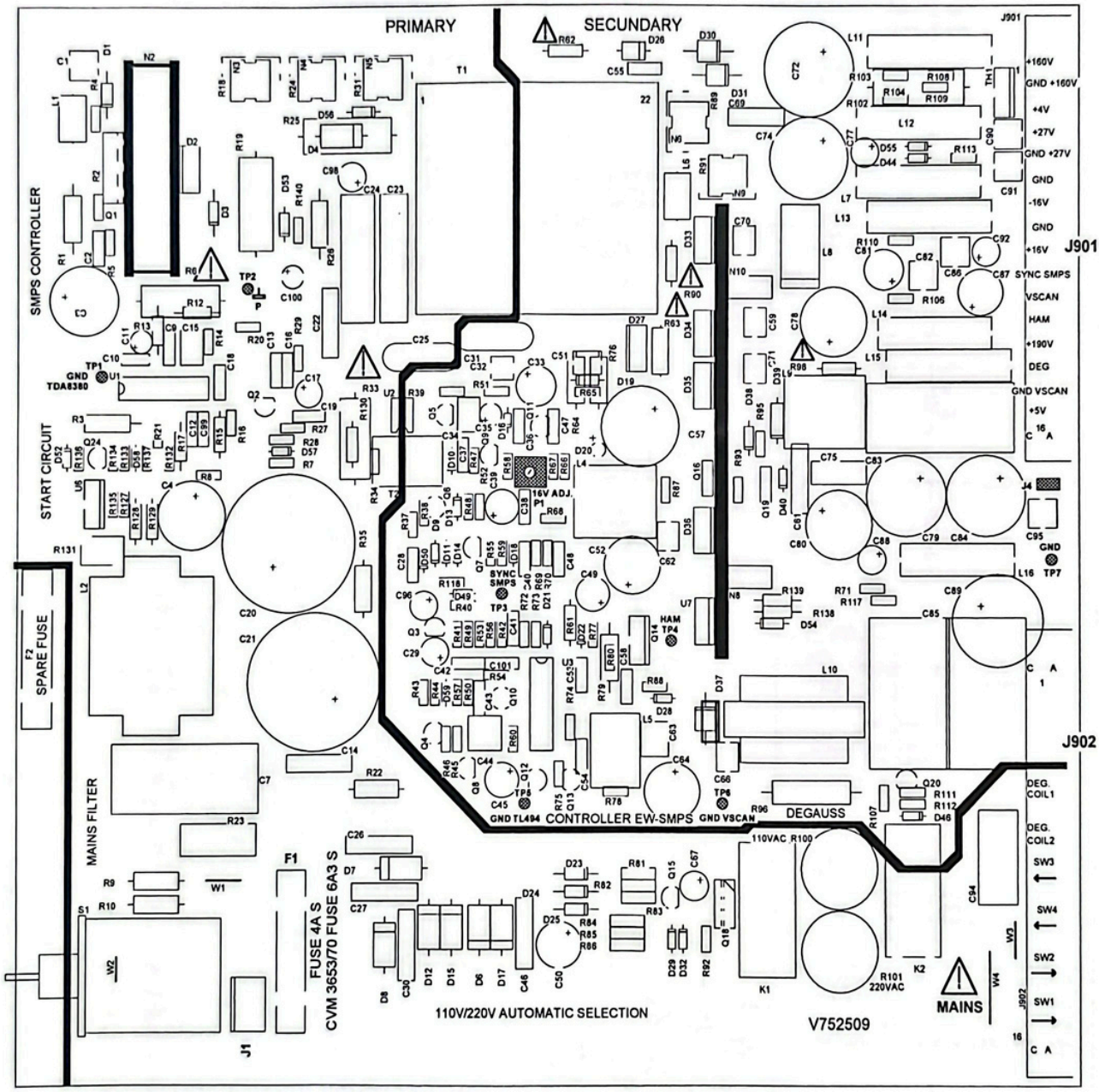
BACKL
RC5 IR RC
RC5 KEYB
LED FUNC
LED VID
LED RF
LED MENU
RX PROBE
+5V
+12V PROBE
K CONTROL PANEL
RX
TX
IRQ
AB-A15
U4 80C32 µCONTR
D0-D7
SDA SCL
U18 24C16 EEPROM
U20 24C04 EEPROM
U1 74HCT 245
A0-A15
U2 74HCT 373
A0-A7
U3 74HCT 574
SELx
SELz
RIS 1
RIS 2
RISPRES
PW DIS
NICAM C2
NICAM C1
NICAM MUTE
VDEL
HDEL
SPLIT
BRI ADJUST
LED VID
LED FUNC
LED RF
LED MENU
U22 EPROM 128Kx8
U21 RAM 8Kx8
DATA INFO
OPT RED
OPT GREEN
OPT BLUE
Y PPT/DIG
SDA EXT
SCL EXT
D DIGITAL
OR
AUDIO OUT L
AUDIO OUT R
S AUDIO
ADDRESS DECODING
U23 ADDR DEC 16V8
U16 74HCT 138
U10 74HCT 138
SEL1
SEL2
SEL3
SEL4
SEL5
SEL6
SELx
SELy
SELz
U5 74HCT 245
U6 74HCT 245
U27 74HCT 574
U28 LS07
U12 DECODER NE5534
ADDRESS INFO
RES80C32
RES8510 µC
ACTIVE
RESET GEN.
LED DRIVE
HL INTERN TEST
GAIN CHAR R
GAIN CHAR G
GAIN CHAR B
RC5
SAT
CON
BRI
BLL-R-Y
BLL-B-Y
HLR
HLG
HLB
LLR
LLG
LLB
HUE
MUX SELECT
16 DC-Control Voltages De-multiplex
DC-CONTR. VOLTAGE GENERATION
ANALOG-MUX
+10V REF
U33 74HCT 574
U34 D/A CONV DAC08
U29 I/V CONV NE5534
SEL1
SEL2
SEL3
SEL5
SEL7
Y RF
AUDIO OUT L
AUDIO OUT R
+12V PROBE
CURRENT LIMIT
+12V
R TUNER RF
C CONTROL & SYNC
SYNC PROC
SCP DEFL
PULSE GEN.
SYNC PROC INT
VIES
SCP 4670
SCP/SDD
ABL
INT WF
BL Y
H SYNC
BL R-Y / B-Y
V SYNC
SCP / SDI
CLP
TELETEXT DECODER & VITC & CHARACTER GENERATOR
CHAR RED
CHAR GREEN
CHAR BLUE
TXT BL

SCP DEFL
BCL
+160V
EHT
EHT CONTROL
SMPS
TRIPL (CASC)
BCL DET.
FIL. STAB.
EHT TRSF
DRIVER
SWITCH
+10V -10V
V VERT FLYB
EHT DIS-ABLE
EHT LIMIT P2
H SYNC
U8 HOR. COMBIN. TDA 2595
H&V SAFE-GUARD
HOR DEFL
HOR DRIVER
FLYB. GEN. (HOR. OUT)
S-CORR
HOR. SHIFT
TO HOR. DEFL. COILS
BOW
SKEW
VERT FLYB GEN
V SYNC
VERTICAL SYNC OSCILLATOR
U9 DEFLECTION PROCESSOR TDA8432
VERTICAL DEFLECTION AMPLIFIER
TO VERT. DEFL. COILS
VERT DEFL
TRAP
16/9 SW.
SDA EXT
SCL EXT
I2C PROT
U15 I2C INTER-FACE TDA 8444
REF DC
V SCAN
DEG COIL 1
DEG COIL 2
E EHT & DEFLECTION
SYNC SMPS
VFLYB
HAM
DEGAUSS DRIVE
OPTO-COUPLER
FEED-BACK
MODULATED SCAN VOLTAGE DOWN CONVERTER
70-150V
VOLTAGE DETECT
RECTIFIER, CONTROL & SWITCHING
RECTIFIERS, FILTERS & STABILIZATION
P SWITCHED MODE POWER SUPPLY
MAINS
& POWER SW3
POWER SW4
POWER SW2
POWER SW1
MAINS SWITCH
+190V
+160V
+27V
+16V
+5V
+4V
-16V

MODIFICATIONS RESERVED
22JAN96

SWITCHED MODE POWER SUPPLY

ADJUST	P1 16V ADJ.					
TP	TP1	TP2	TP3 TP5	TP4	TP6	TP7



VERSION 2

V5635050/51 : MODIFICATION INDEX 10-12

V5635052 : MODIFICATION INDEX 03-07

P

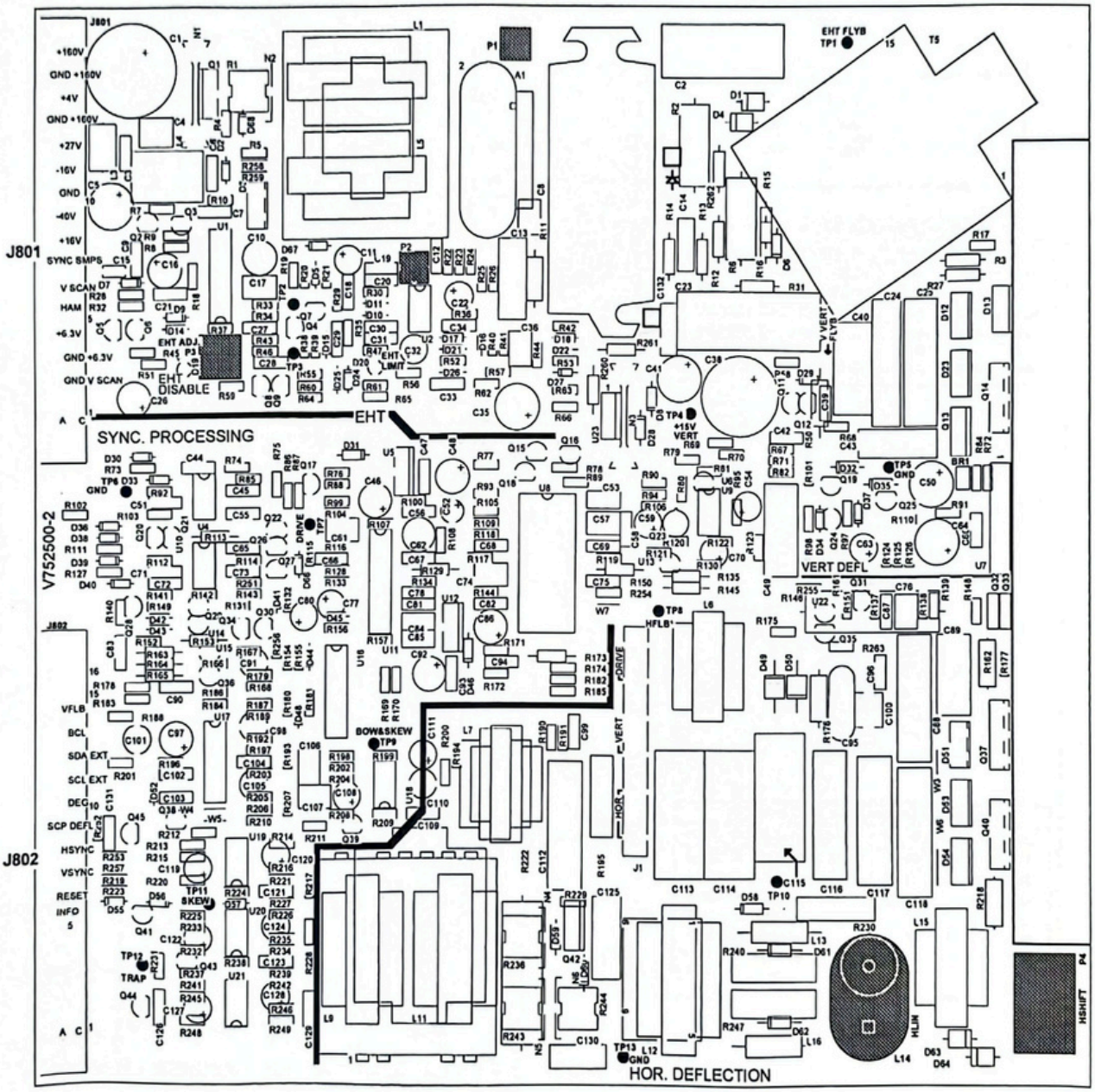
SWITCHED MODE POWER SUPPLY CVM 3000
PRINTED CIRCUIT BOARD V752509

MODIFICATIONS RESERVED 06OCT95

| | | |

EHT & DEFLECTION

ADJUST	P3 EHT ADJ.	P2 EHT LIMIT	P1 BCL					L14 HLIN	P4 HSHIFT
TP	TP6,12,11	TP2,3,7	TP9	TP13,8,4	TP10	TP1	TP5		



VERSION 2
V5635090/91/92/93/94/95
V5635096/97

E

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V752500-2

MODIFICATIONS RESERVED 16MAR95

R	
C	
MISC	

MODULE #	VSCAN	TP10
V5635090	+84 Vdc	1000 Vp-p
V5635091	+95 Vdc	1200 Vp-p
V5635092	+82 Vdc	1100 Vp-p
V5635093	+92 Vdc	1100 Vp-p
V5635094	+65 Vdc	800 Vp-p
V5635095	+50 Vdc	600 Vp-p

MODULE #	CVM MONITOR	L14	C114	C113	C116	L15
V5635090	3037 IH, 3137 IH	V7753135	-	1M2 250V	-	15.5 mH
V5635091	3537 PS, 3637 PS	V306413	-	820K 250V	-	29 mH
V5635092	3051 IM	V7753135	-	1M2 250V	-	15.5 mH
V5635093	3551 PS	V306446	-	910K 250V	-	20 mH
V5635094	3051 IH	V306447	1M 250V	1M 250V	-	9.2 mH
V5635095	3237 IH, 3337 IH	V306447	1M 250V	2M2 250V	1M 250V	6 mH

HORIZONTAL DEFLECTION

MODULE #	CVM MONITOR	R244	R222	L13	R240	L9	C96	C88	C118
V5635090	3037 IH, 3137 IH	2K7 7W	1K 6W	2.5 µH	4E7 2W	2.5 mH	470 pF 400V	2K2 1600V	4K7 1600V
V5635091	3537 PS, 3637 PS	2K7 7W	1K 6W	2.5 µH	6E8 1W6	2.5 mH	470 pF 400V	2K2 1600V	2K2 1600V
V5635092	3051 IM	2K7 7W	1K 6W	2.5 µH	4E7 2W	2.5 mH	470 pF 400V	2K2 1600V	4K7 1600V
V5635093	3551 PS	2K7 7W	1K 6W	2.5 µH	4E7 2W	2.5 mH	470 pF 400V	2K2 1600V	3K3 1600V
V5635094	3051 IH	2K7 7W	330E 4W	2.5 µH	2E2 2W	WIRE	220 pF 400V	2K2 1600V	8K2 1600V
V5635095	3237 IH, 3337 IH	6K8 7W	150E 6W	WIRE	E47 2W	2.5 mH	220 pF 400V	8K2 1600V	10K 1600V

HORIZONTAL COIL IMPEDANCES & CURRENTS				
MODULE #	CVM MONITOR	Lh (mH)	Rh (ohm)	Ih (A)
V5635090	3037 IH, 3137 IH	1.20	1.08	3.87
V5635091	3537 PS, 3637 PS	2.20		2.17
V5635092	3051 IM	1.20	1.25	3.80
V5635093	3551 PS	1.50	1.55	3.30
V5635094	3051 IH	0.70		5.14
V5635095	3237 IH, 3337 IH	0.39	0.60	6.00

VERTICAL OSCILLATOR

VERTICAL DEFLECTION

VERTICAL COIL IMPEDANCES & CURRENTS				
MODULE #	CVM MONITOR	Lv (mH)	Rv (ohm)	Iv (A)
V5635090	3037 IH, 3137 IH	24.00	12.50	0.75
V5635091	3537 PS, 3637 PS	27.50	14.00	0.75
V5635092	3051 IM	24.00	12.00	0.87
V5635093	3551 PS	26.00	12.00	1.00
V5635094	3051 IH	24.00	12.00	0.75
V5635095	3237 IH, 3337 IH	5.60	4.50	1.80

MODULE #	CVM MONITOR	D35	R50	R125	R126	R124
V5635090	3037 IH, 3137 IH	15V	1K 2W5	3E3	18E	3E3
V5635091	3537 PS, 3637 PS	27V	680E 2W5	3E3	18E	3E3
V5635092	3051 IM	27V	680E 2W5	2E7	-	2E7
V5635093	3551 PS	27V	680E 2W5	3E3	4E7	4E7
V5635094	3051 IH	15V	1K 2W5	3E3	-	3E3
V5635095	3237 IH, 3337 IH	15V	56E 1W6	1E2	-	3E9
				ALL 0W4		

PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH ⚠ OR * HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS.
DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

SAVE GUARD

CVM3X37/51
V5635090/91/92/93/94/95

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V752500D2
SHEET 1 OF 3
UPDATED TO MI 07
MODIFICATIONS RESERVED 30MAR95

E1

R	
C	
MISC.	

EHT REGULATOR

EHT DISABLE

EHT LIMIT

MODULE #	CVM MONITOR	R33	R3	R27	R15	R16
V5635090	3037 IH, 3137 IH	90K9	-	E1	E1	-
V5635091	3537 PS, 3637 PS	90K9	E1	-	E1	-
V5635092	3051 IM	68K	E1	-	E1	-
V5635093	3551 PS	68K	E1	-	E1	-
V5635094	3051 IH	68K	-	E1	E1	-
V5635095	3237 IH, 3337 IH	90K9	-	E1	-	E1

PRODUCT SAFETY NOTICE

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HIGH VOLTAGE GENERATOR

V5635090/91/92/93/94/95

CVM 3X37/51 E2

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V75250D2
SHEET 2 OF 3
UPDATED TO MI 07
MODIFICATIONS RESERVED 29MAR95

R	
C	
MISC.	

MODULE #	CVM MONITOR	R152	R153	R187
V5635090	3037 IH, 3137 IH	1K	WIRE	-
V5635091	3537 PS, 3637 PS	1K	WIRE	3K9
V5635092	3051 IM	820	560	-
V5635093	3551 PS	820	WIRE	-
V5635094	3051 IH	680	1K8	-
V5635095	3237 IH, 3337 IH	680	3K9	-

R153 ON V5635095 :
3K3 ON MI 03 TO 07
3K9 ON OTHERS

I²C INTERFACE

HORIZONTAL AMPLITUDE MODULATION

MODULE #	CVM MONITOR	HAM DC VOLTAGE
V5635090	3037 IH, 3137 IH	4.10 Vdc
V5635091	3537 PS, 3637 PS	3.50 Vdc
V5635092	3051 IM	4.50 Vdc
V5635093	3551 PS	3.00 Vdc
V5635094	3051 IH	8.00 Vdc
V5635095	3237 IH, 3337 IH	12.50 Vdc

TRAPEZIUM

SKEWING

VERTICAL BOWING

V5635090/91/92/93/94/95

CVM 3X37/51 E3

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V75250002
SHEET 3 OF 3
UPDATED TO MI 07
MODIFICATIONS RESERVED 30MAR95

R	
C	
MISC.	

MODULE #	VSCAN	TP10
V5635096	+135 Vdc	1500 Vp-p
V5635097	+130 Vdc	1450 Vp-p

MODULE #	CVM MONITOR	C117	R137	C114	C113
V5635096	3653 PS	10nF 1000V	15K	150 nF 250V	220 nF 250V
V5635097	3670 PS	12nF 1000V	12K	-	560 nF 250 V

MODULE #	CVM MONITOR	R240	R247
V5635096	3653 PS	1E 2W	1E 2W
V5635097	3670 PS	E47 2W	E47 2W

HORIZONTAL COIL IMPEDANCES & CURRENTS				
MODULE #	CVM MONITOR	Lh (mH)	Rh (ohm)	Ih (A)
V5635090	3653 PS	1.80		4.20
V5635091	3670 PS	1.58	1.70	4.70

VERTICAL COIL IMPEDANCES & CURRENTS				
MODULE #	CVM MONITOR	Lv (mH)	Rv (ohm)	Iv (A)
V5635096	3653 PS	11.70	6.00	1.77
V5635097	3670 PS	9.00	5.00	2.00

MODULE #	CVM MONITOR	R50	R125	R126	R124
V5635096	3653 PS	1K 2W5	2E2	1E2	3E9
V5635097	3670 PS	56E 1W6	1E2	1E2	12E
			ALL 0W4		

HORIZONTAL DEFLECTION

VERTICAL OSCILLATOR

EW & TRAP AMPLIFIER

VERTICAL DEFLECTION

SAVE GUARD

HEATSINK

PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH ⚠ OR * HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS. DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

V5635096/97

CVM3653/70 E1

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V752500D2
SHEET 1 OF 3
UPDATED TO MI 07
MODIFICATIONS RESERVED 30MAR95

R	
C	
MISC	

MODULE #	CVM MONITOR	R15	R16	R46	P1
V5635096	3653 PS	E1	-	82K	200E
V5635097	3670 PS	-	E1	71K5	500E

PRODUCT SAFETY NOTICE

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HIGH VOLTAGE GENERATOR

V5635096/97

CVM 3653/70 E2

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V752500D2
SHEET 2 OF 3
UPDATED TO MI 07
MODIFICATIONS RESERVED 29MAR95

R	
C	
MISC.	

I²C INTERFACE

HORIZONTAL AMPLITUDE MODULATION

MODULE #	CVM MONITOR	R164	R179
V5635096	3653 PS	2K74	22K
V5635097	3670 PS	3K01	18K

MODULE #	CVM MONITOR	HAM DC VOLTAGE
V5635096	3653 PS	-2.80 Vdc
V5635097	3670 PS	-2.20 Vdc

TRAPEZIUM

SKEWING

VERTICAL BOWING

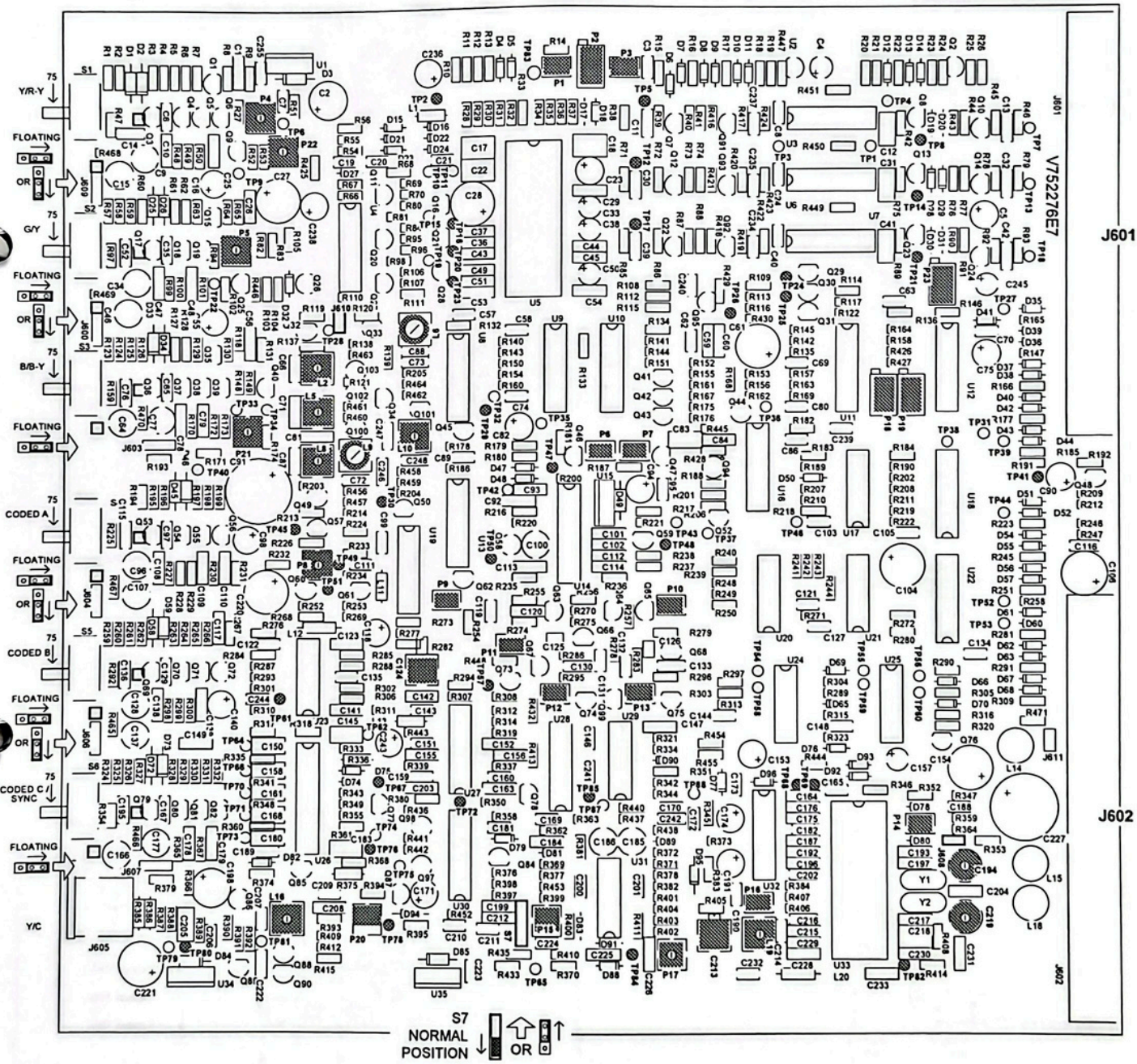
V5635096/97

CVM 3653/70 E3

EHT & DEFLECTION (VERSION 2) CVM 3000
PRINTED CIRCUIT BOARD V75250D2
SHEET 3 OF 3
UPDATED TO MI 07
MODIFICATIONS RESERVED 30MAR95

ANALOG INPUT & DECODER

ADJUST	P5 P4 L2,5,8 L9 P21 P22 P8 L6,10 P9 P1 P2 P3 P6 P7 P19 P18 P23
MISC	J610 TP30 TP29 TP12

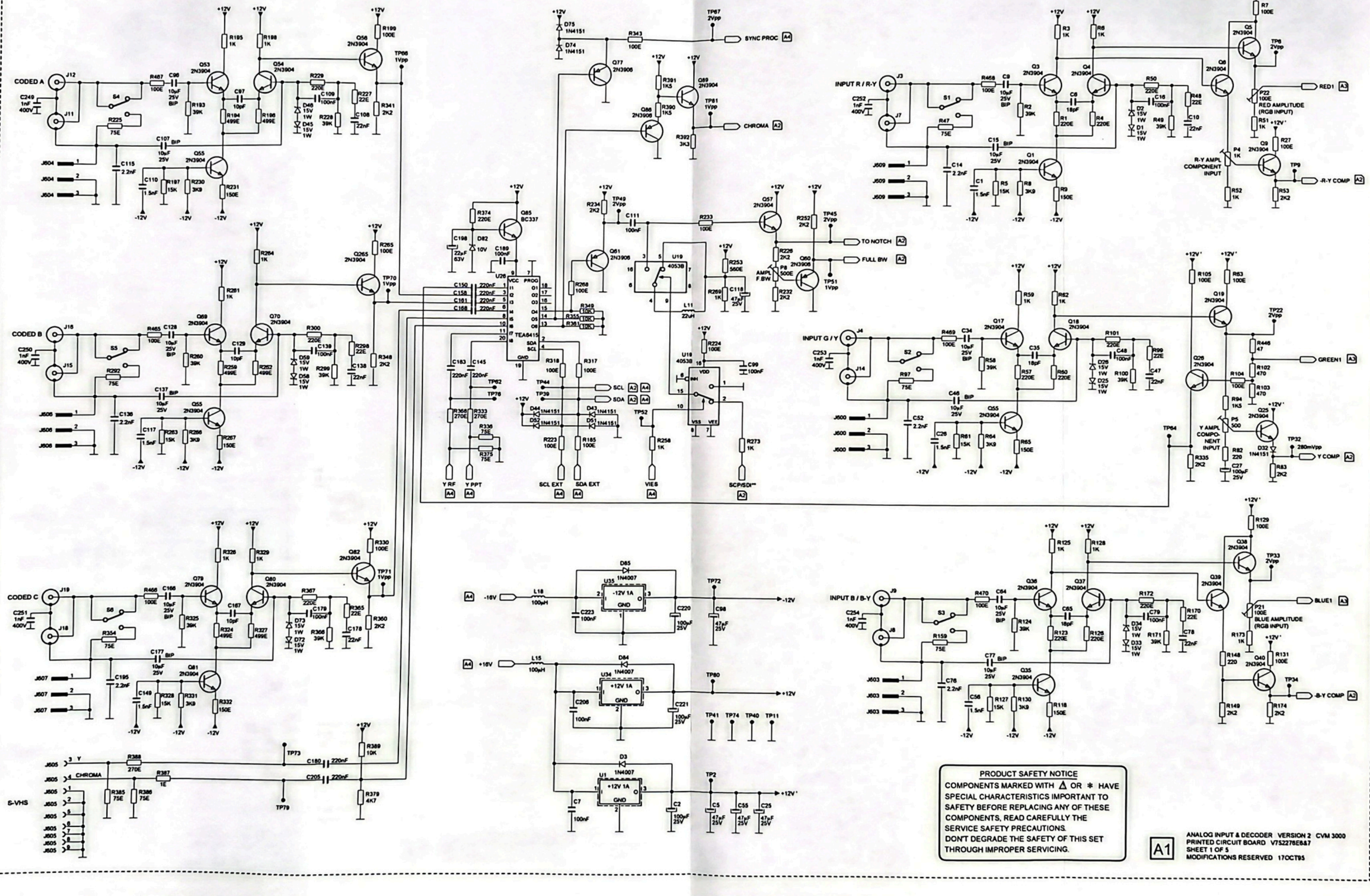


MISC	TP78 S7 or J615 TP68,TP69 J608
ADJUST	L16 P20 C124 P11 P15 P12 P13 P17 C213 L19 P16 P10 P14 C194 C219

A

VERSION 2
V5635003
ANALOG INPUT & DECODER CVM 3000
PRINTED CIRCUIT BOARD V752276E6&7
MODIFICATIONS RESERVED 17OCT95

R	P8
C	P4,P5 P22,P21
MISC	



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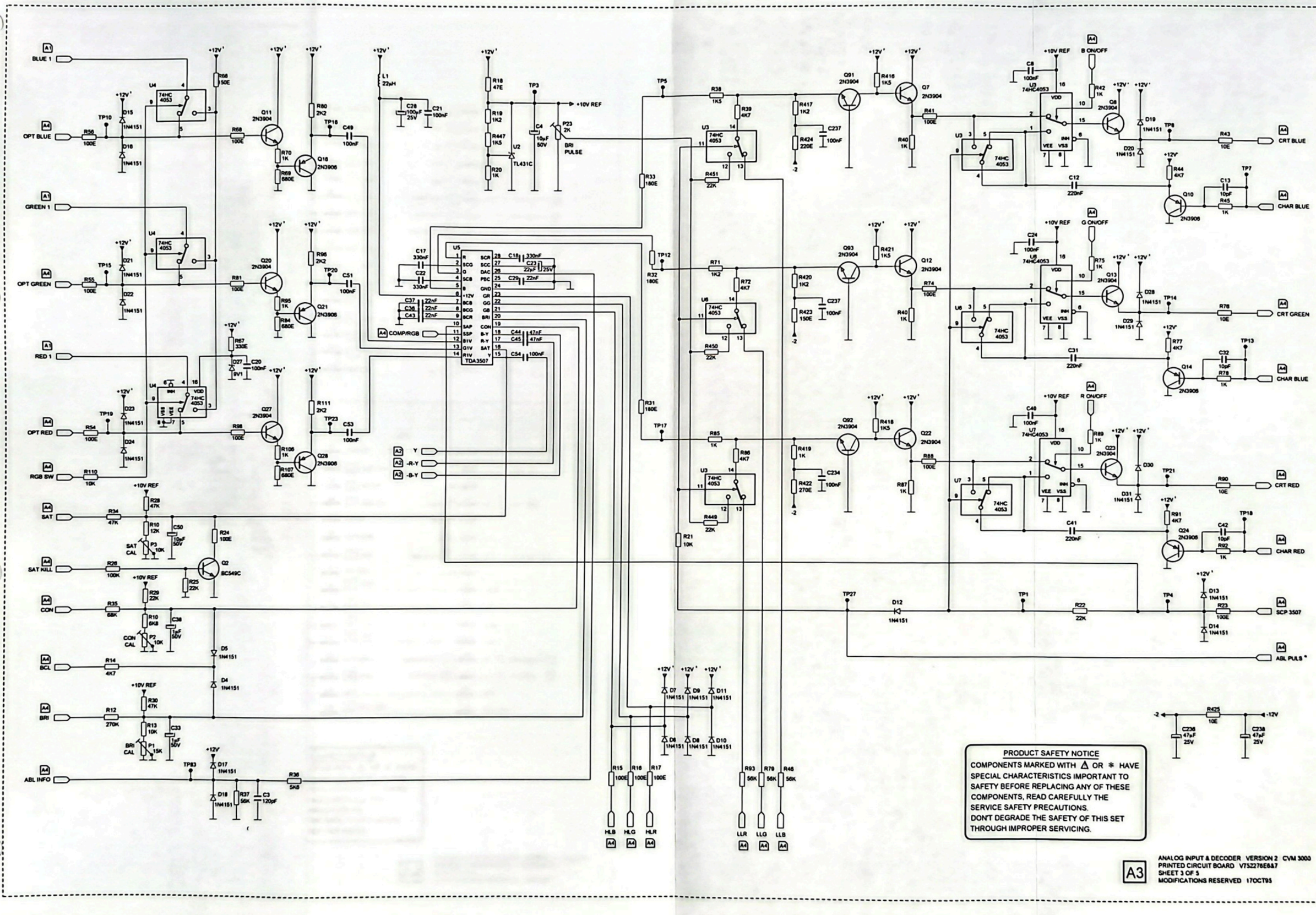
R	P3.P2.P1 P23
C	
MISC.	TP12



R	
C	
MISC.	

J601

A3	OPT RED	a1	OPT RED	CON C c1	CON A3
A3	OPT GREEN	a2	OPT GREEN	SAT C c2	SAT A3
A3	OPT BLUE	a3	OPT BLUE	BRI C c3	BRI A3
A3	BCL	a4	E BCL	HLB C c4	HLB A3
A3	HLG	a5	C HLG	HLR C c5	HLR A3
A3	LLB	a6	C LLB	CHAR BLUE C c6	CHAR BLUE A3
GND CRT		a7	GND CRT	CRT BLUE T c7	CRT BLUE A3
		a8	GND CRT	CRT GREEN T c8	CRT GREEN A3
		a9	GND CRT	CRT RED T c9	CRT RED A3
		a10	GND CRT	CHAR GREEN C c10	CHAR GREEN A3
A3	LLG	a11	C LLG	ABL INFO T c11	ABL INFO A3
A3	LLR	a12	C LLR	CHAR RED C c12	CHAR RED A3
A3	SCP 3507	a13	C SCP 3507	ABL PULS C c13	ABL PULS
TXT BL		a14	C TXT BL	CLP C c14	CLP A2
A3	BLL -R-Y	a15	C BLL -R-Y	BLL -B-Y C c15	BLL -B-Y A2
A4	SDA EXT	a16	SDA EXT	HBL Y C c16	HBL Y A2

J602

A1	SCL EXT	a1	SCL EXT	SCP DEC C c1	SCP DEC A2 A3
A2	SCP 4670	a2	C SCP 4670	VIES C c2	VIES A1
A2	INT WF	a3	C INT WF	DEQ c3	
RGB SW		a4	C RGB SW	HUE C c4	HUE A2
		a5	HSYNC	SCP DEFL c5	
		a6	CLP CHAR	VSYNC c6	
IRQ		a7	C IRQ	HBL SPLIT C c7	HBL SPLIT A2
		a8	HBL SDD	VFLB c8	
		a9	P +27V	c9	+27V
+5V		a10	P +5V	c10	+5V
A1	+16V	a11	P +16V	c11	+16V
A1	-16V	a12	P -16V	c12	-16V
		a13	CLP CHAR	SYNC PROC C c13	SYNC PROC A1
A1	Y RF	a14	R Y RF	Y PPT/DIG D c14	Y PPT/DIG A1
GND		a15	GND	c15	GND
GND +27V		a16	P GND +27V	c16	GND +27V

PRODUCT SAFETY NOTICE

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DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

A4

ANALOG INPUT & DECODER VERSION 2 CVM 3000
PRINTED CIRCUIT BOARD V752278E8&7
SHEET 4 OF 5
MODIFICATIONS RESERVED 17OCT95

R	P17	P15		P11.P10	P12.P13
C					
MISC.	S7 or J615	TP65			

PRODUCT SAFETY NOTICE

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BURST GATING

burst with fixed amplitude

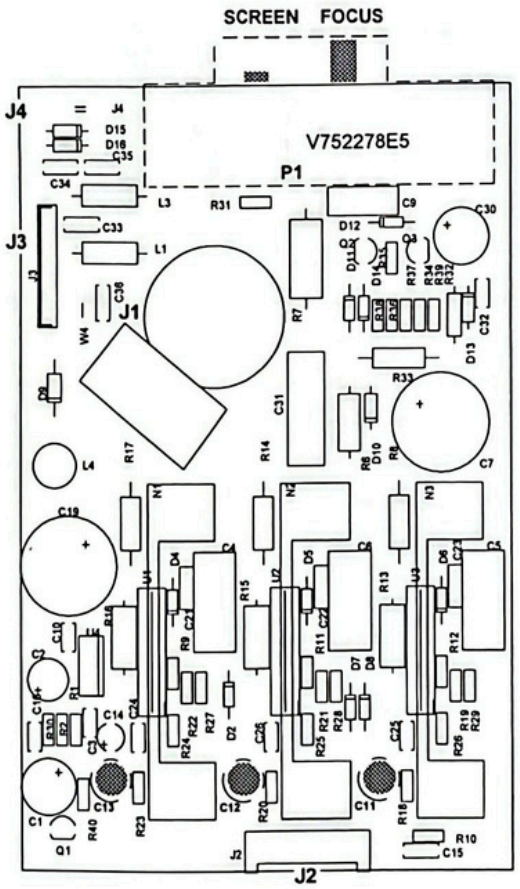
ACC /NON-ACC CIRCUIT

A5

ANALOG INPUT & DECODER VERSION 2 CVM 3000
PRINTED CIRCUIT BOARD V752278E6&7
SHEET 5 OF 5
MODIFICATIONS RESERVED 17OCT95

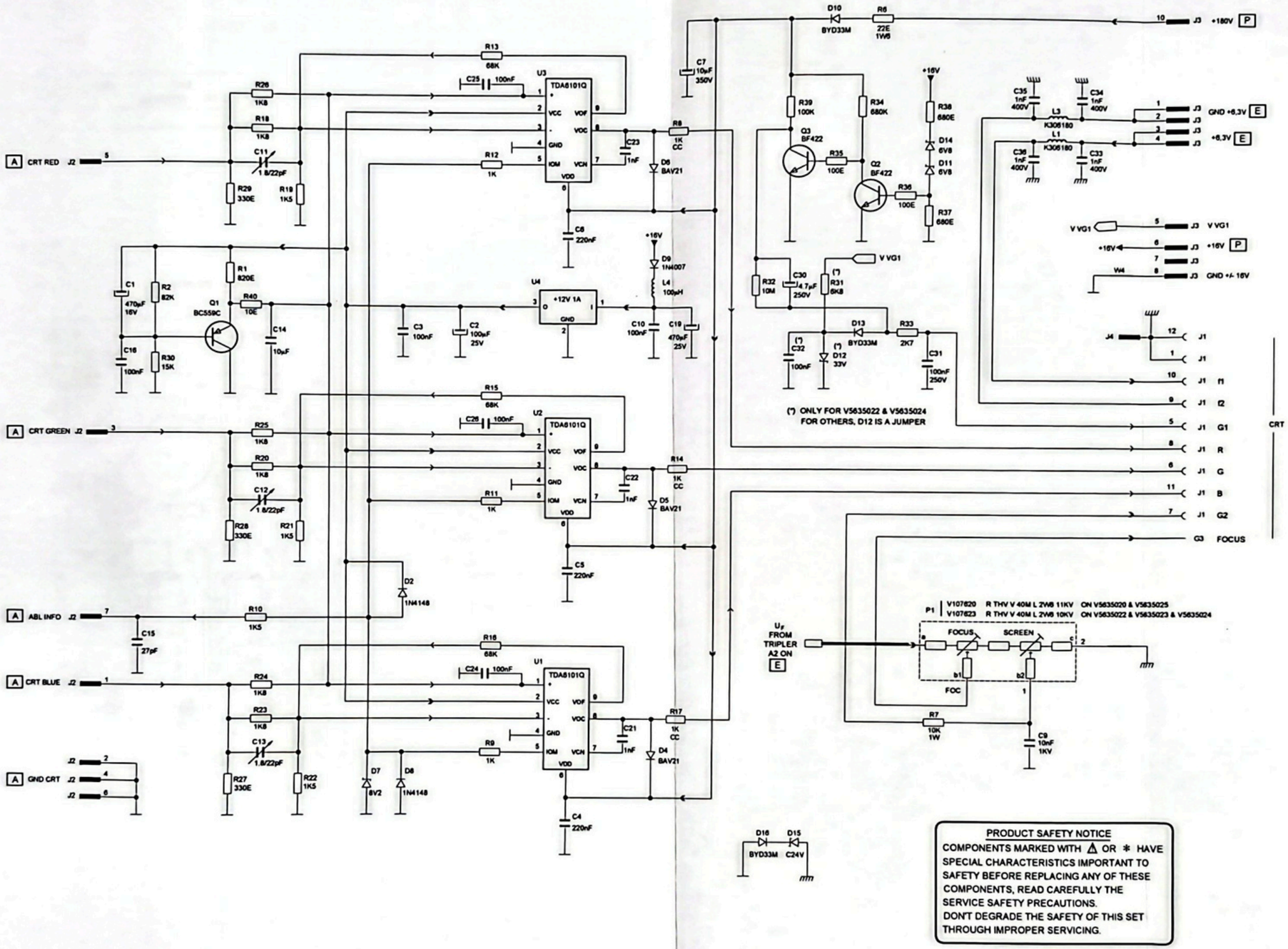
CRT SOCKET (Small Neck)

ADJUST	C13 C12 C11 SCREEN — P1 — FOCUS
TP	



CRT SOCKET Small Neck CVM 3000
PRINTED CIRCUIT BOARD V752278-5
FOR MODULES V5635020/22/23/24/25
MODIFICATIONS RESERVED 19DEC95

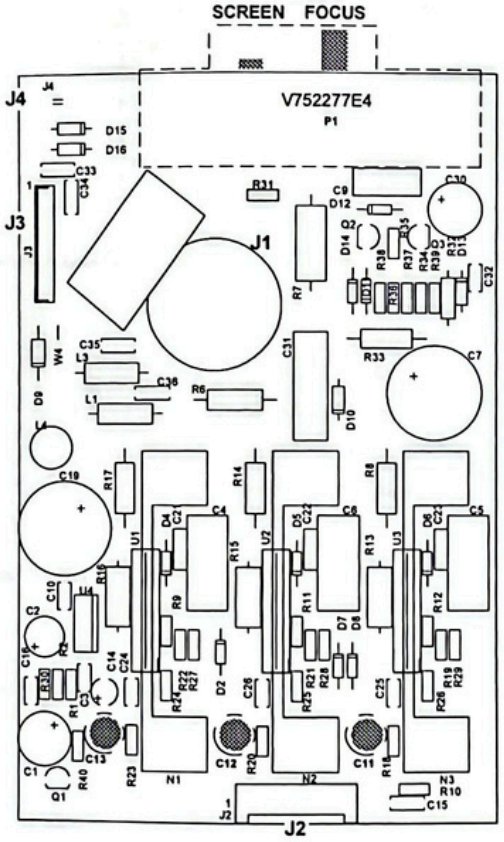
R	
C	
MISC.	



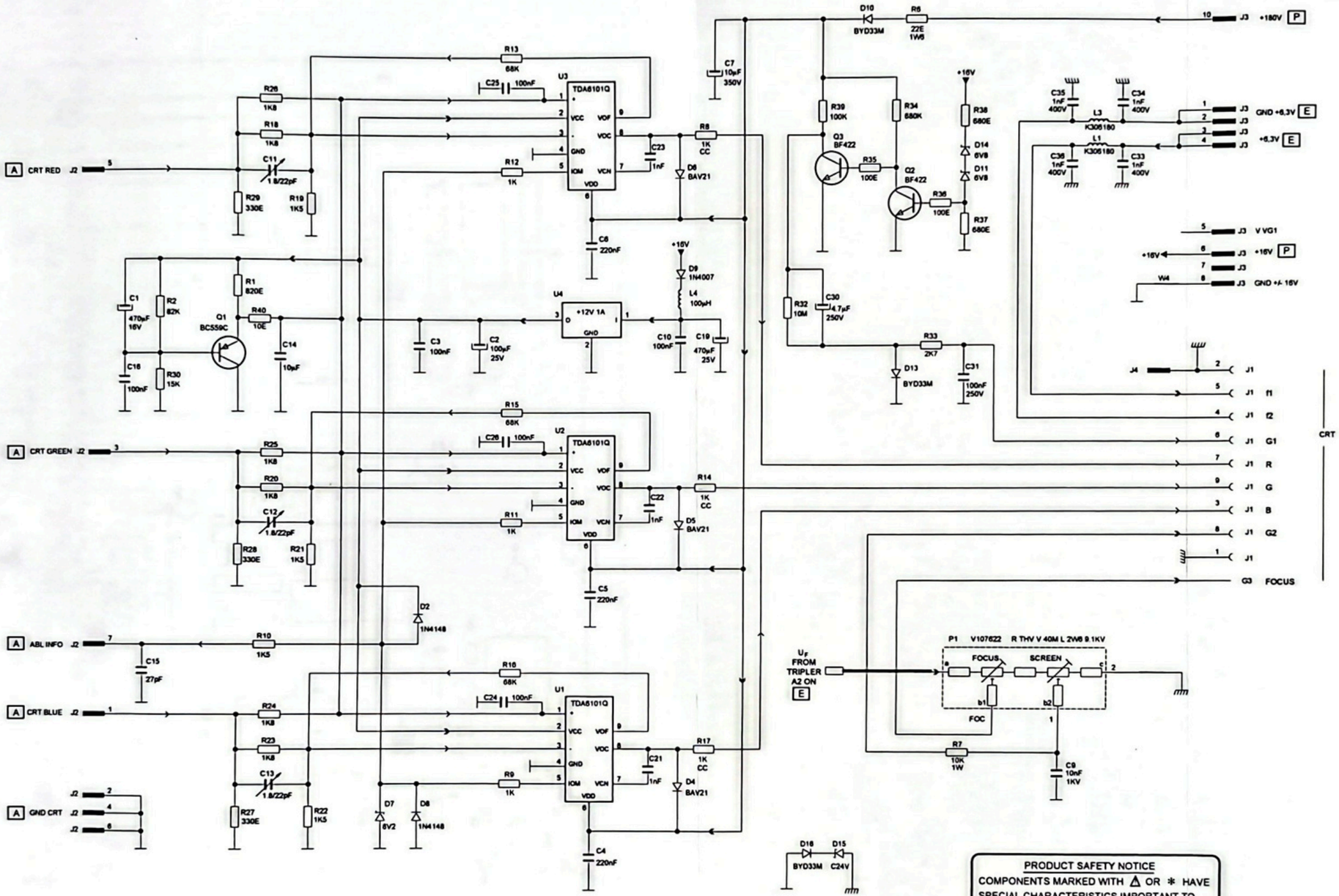
CRT SOCKET CVM 3000 (SMALL NECK)
PRINTED CIRCUIT BOARD V752278-5
SHEET 1 OF 1
MODIFICATIONS RESERVED 11DEC95

CRT SOCKET (Mini Neck)

ADJUST	C13 SCREEN	C12 P1	C11 FOCUS
TP			



R	
C	
MISC	



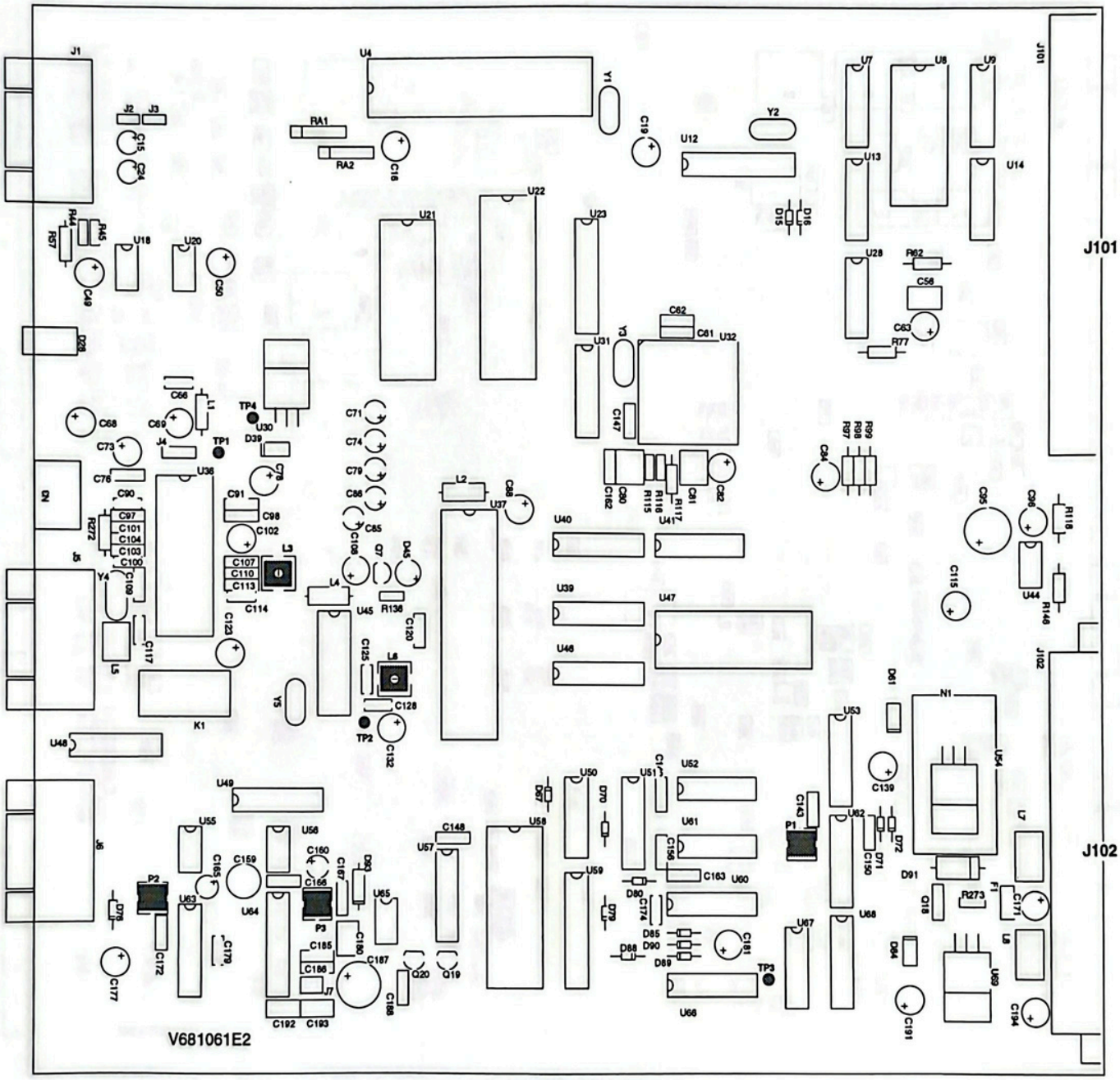
PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH △ OR * HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS.
DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

TMN

CRT SOCKET CVM 3000 (MINI NECK)
PRINTED CIRCUIT BOARD V752277-4
SHEET 1 OF 1
MODIFICATIONS RESERVED 11DEC95

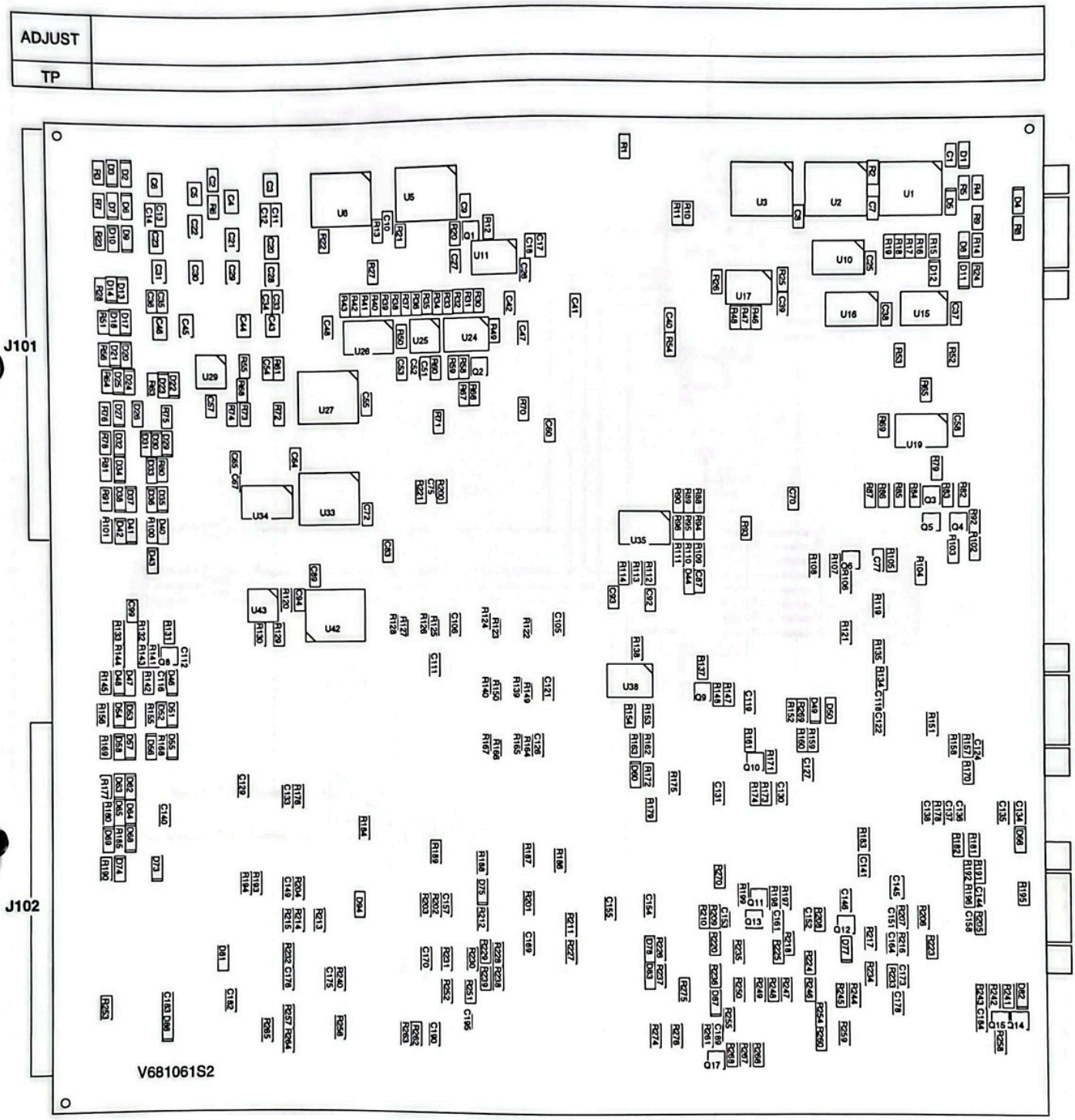
ADJUST	P2	L3	P3	L6	P1
TP	TP1 TP4		TP2		TP3



MORE SMD COMPONENTS ON OTHER SIDE
REFER TO THE FOLLOWING PAGE

C

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V681061E2
TOP SIDE
MODIFICATIONS RESERVED 28JUN94

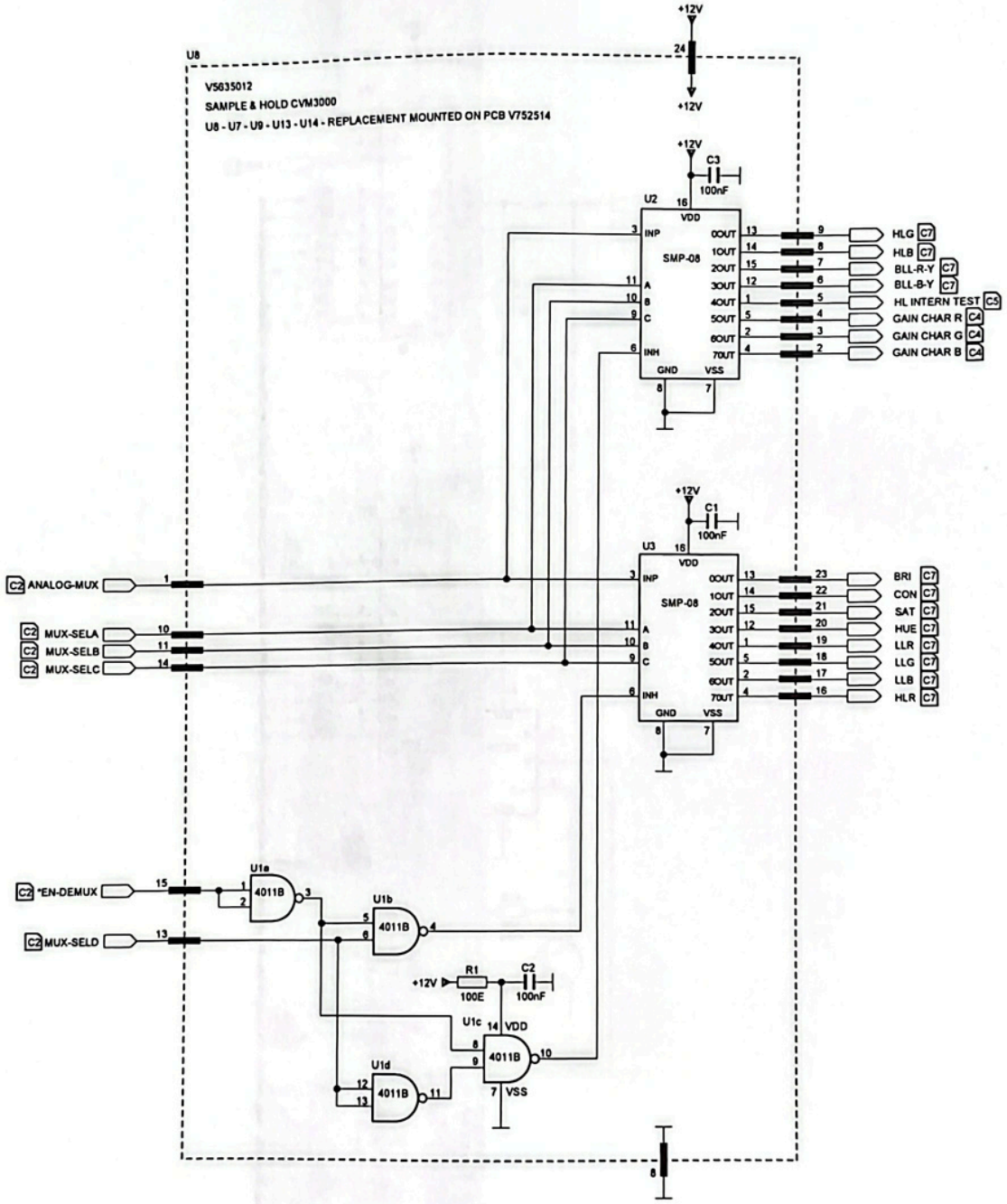


MORE COMPONENTS ON THE OTHER SIDE
REFER TO THE PREVIOUS PAGE

C

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V681061S2
BOTTOM SIDE
MODIFICATIONS RESERVED 28JUN94

R	
C	
MISC.	



PRODUCT SAFETY NOTICE

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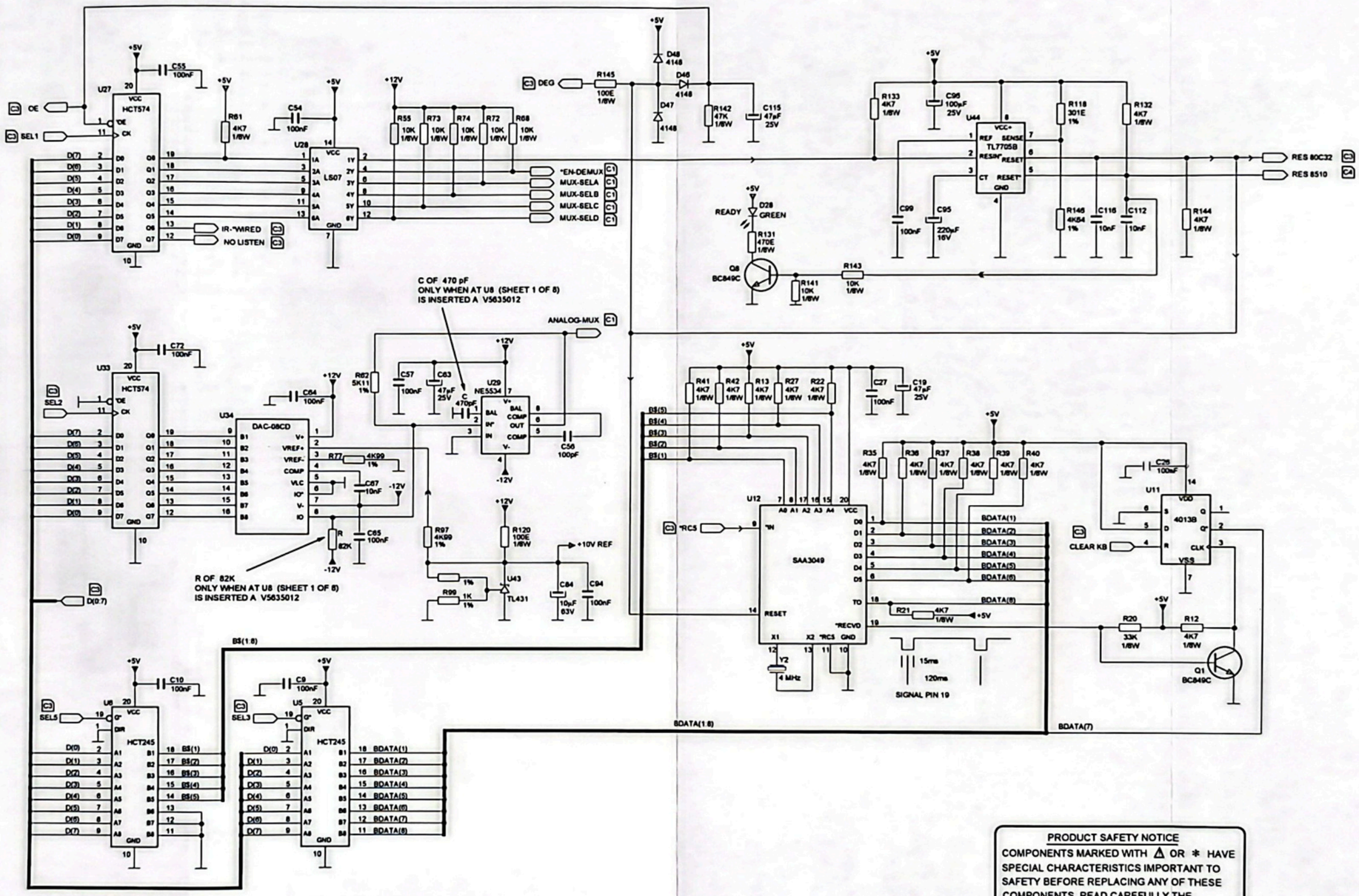
DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

THIS SHEET 1 OF 8 ONLY
FOR MODIFICATION INDEX ≥ 09

C1

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V681061
SHEET 1 OF 8
MODIFICATIONS RESERVED 17JAN95

R	
C	
MISC.	



PRODUCT SAFETY NOTICE

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C2

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V681061
SHEET 2 OF 8
MODIFICATIONS RESERVED 17JAN85

R	
C	
MISC.	

TALLY & RIS	REM 1	REM 2
1 TALLY RED	1 TX-RC5 WIRED	1 RX-RC5 WIRED
2 TALLY GREEN	2 NC	2 NC
3 (RIS1)	3 NC	3 NC
4 (RIS2)	4 NC	4 NC
5 COMMON(ANODE LED'S)	5 NC	5 RX-RC5 TRANSMITTER
6 GND	6 GND	6 GND
7 GND	7 TX RS232	7 NC
8 (RISPRES)	8 RX RS232	8 RX RS232
9 +12Vdc	9 +5V	9 NC

PRODUCT SAFETY NOTICE

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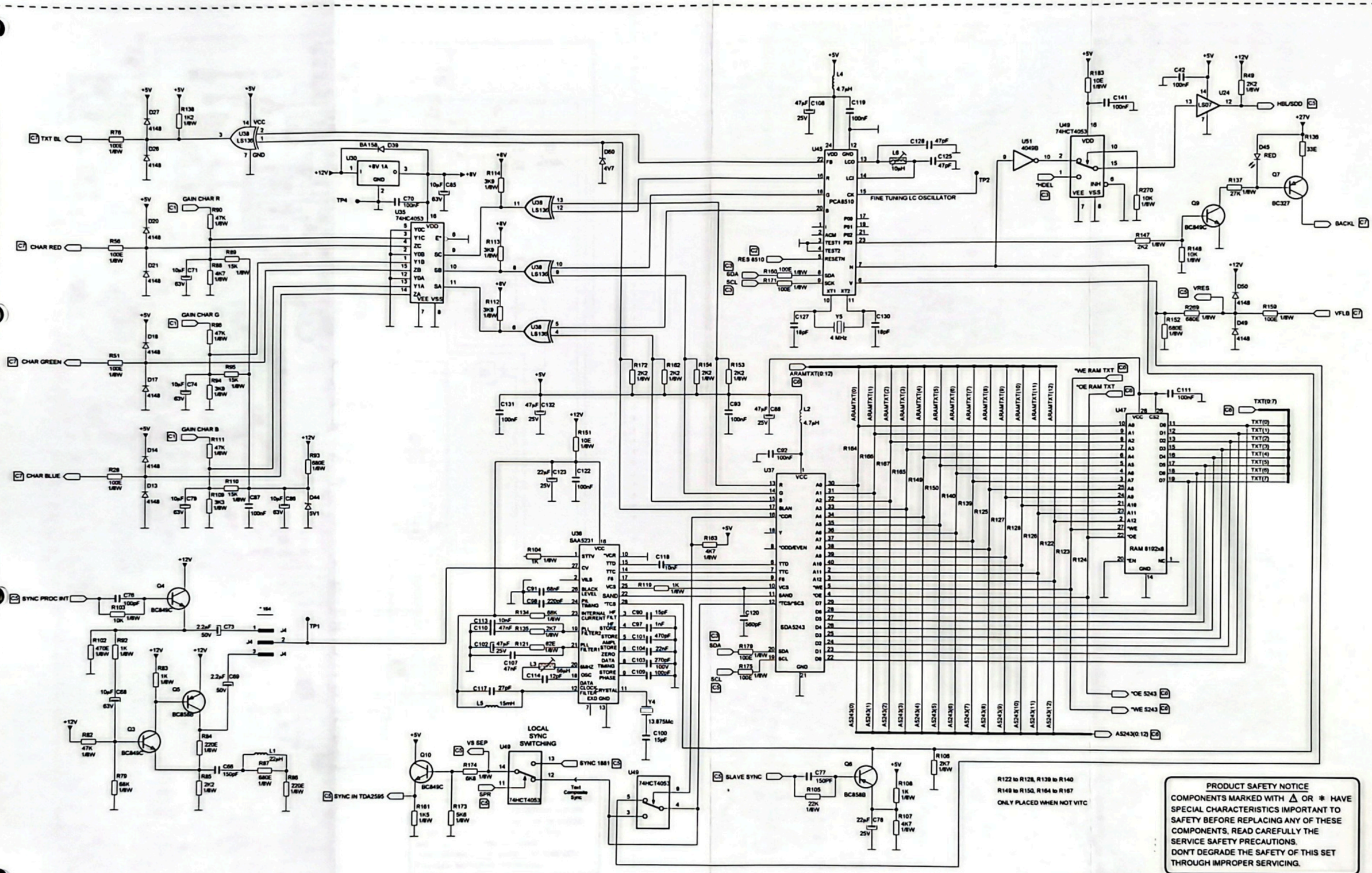
C3

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V6810B1
SHEET 3 OF 8
MODIFICATIONS RESERVED 08AUG94

R	
C	
MISC.	



PRODUCT SAFETY NOTICE

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C4

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V8810B1
SHEET 4 OF 8
MODIFICATIONS RESERVED 08AUG94

R	
C	
MISC.	

ACTIVE SYNC TIP CLAMPING

HORIZONTAL FLYWHEEL GENERATOR

SYNC SEPARATOR

SYNC PRESENT DETECTOR

SYNC IN TDA2595

10-BIT COUNTER ADDRESS GENERATOR

EEPROM VERTICAL TIMINGS

8-BIT LATCH

PRODUCT SAFETY NOTICE

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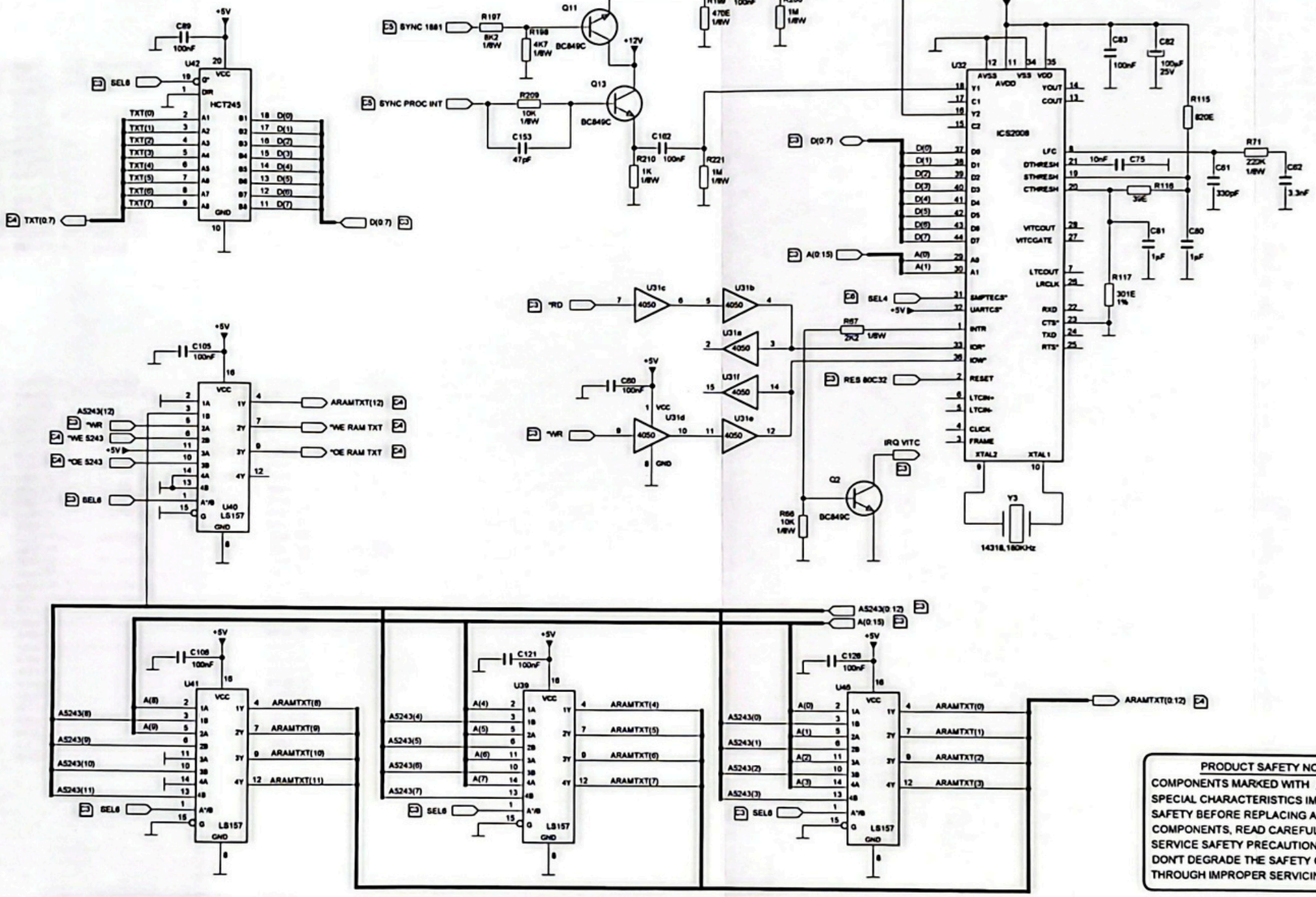
C5

CONTROL & SYNC CVM 3000
PRINTED CIRCUIT BOARD V681061
SHEET 5 OF 8
MODIFICATIONS RESERVED 08AUG94

R	
C	
MISC	



PRODUCT SAFETY NOTICE

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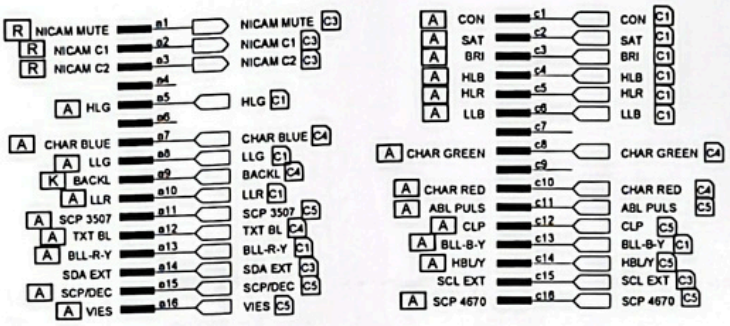
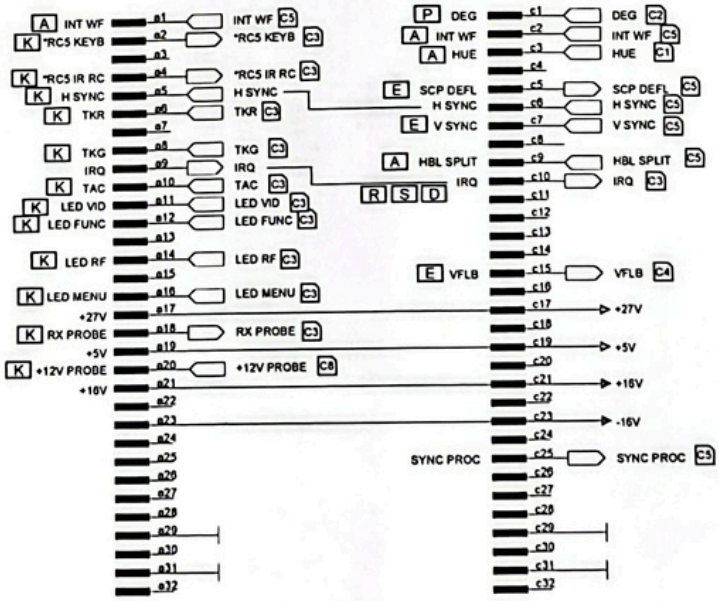
MODIFICATIONS RESERVED 08AUG94

R	
C	
MISC.	

J101



J102



PRODUCT SAFETY NOTICE

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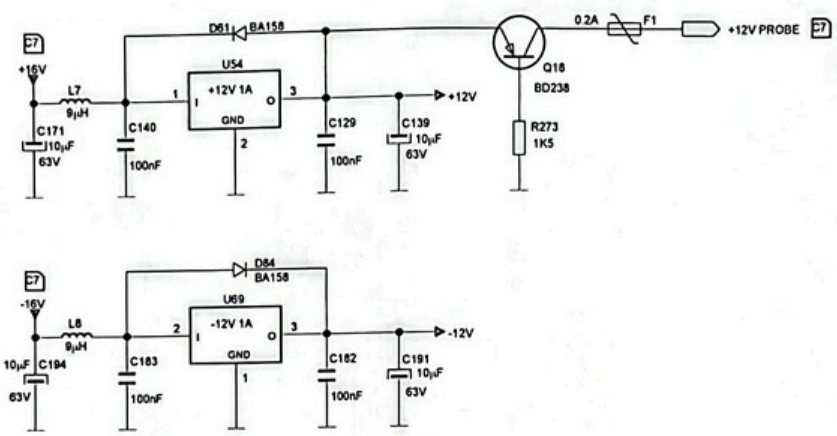
MODIFICATIONS RESERVED 08AUG94

R	
C	
MISC.	



PRODUCT SAFETY NOTICE

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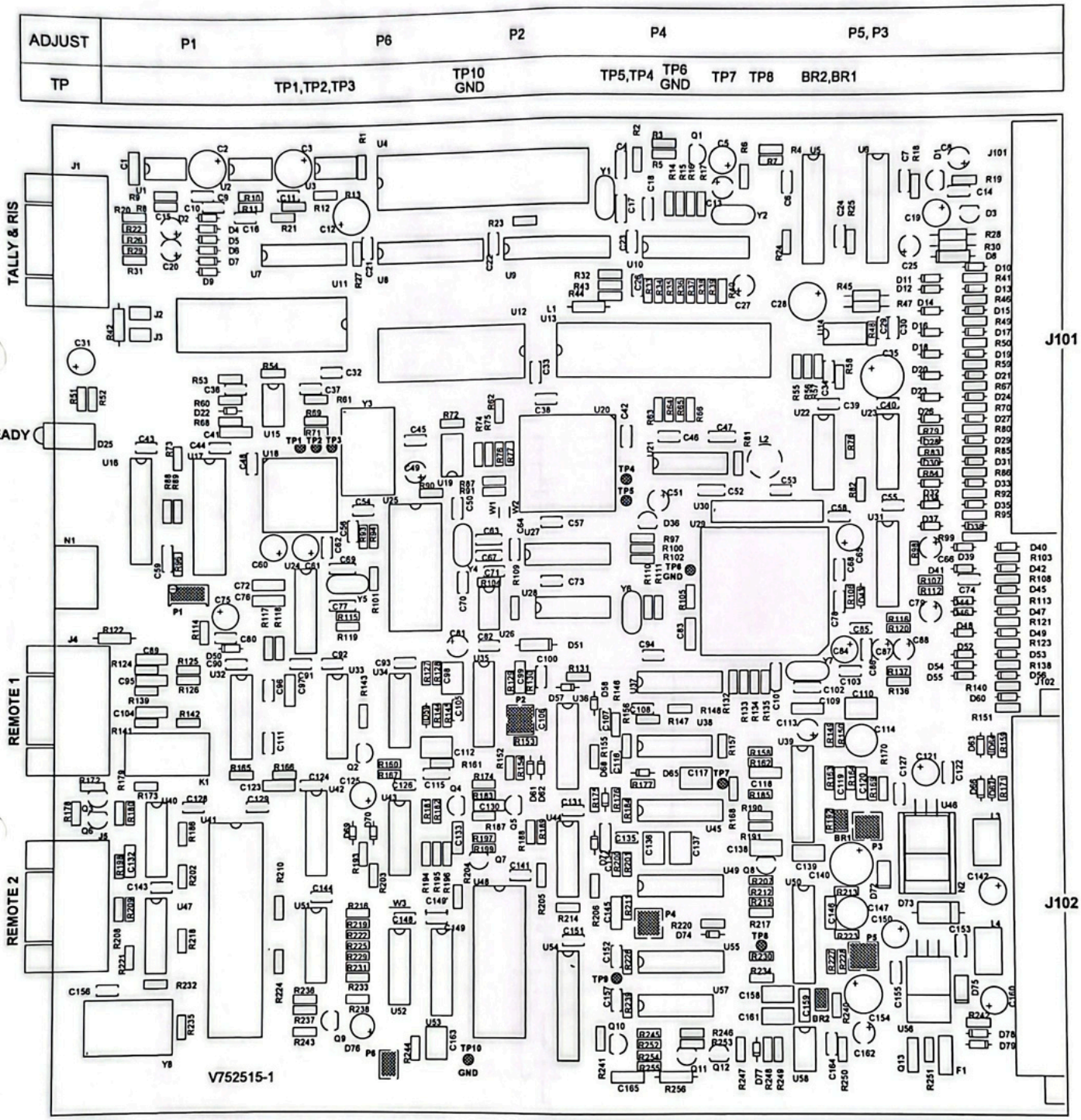
MODIFICATIONS RESERVED 08AUG94

CONTROL & SYNC
VERSION 2 WITH SAD



VERSION 2
V5635015/16

C

CONTROL & SYNC Version 2 CVM 3000
PRINTED CIRCUIT BOARD V752515

MODIFICATIONS RESERVED 23OCT95

R	
C	
MISC.	

DATA EEPROMs

DC-CONTROL VOLTAGE GENERATOR

MICROCONTROLLER

PROGRAM EEPROM

RC5 DECODER

RESET GENERATOR

J1
TALLY & RIS

PRODUCT SAFETY NOTICE
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CONTROL & SYNC sheets :
✓ Sheet 1 : CONTROL
Sheet 2 : CHARACTER GENERATOR & TELETEXT
Sheet 3 : REMOTE CONTROL
Sheet 4 : TIMING
Sheet 5 : SAD & VITC

C1

CONTROL & SYNC VERSION 2 CVM 3000
PRINTED CIRCUIT BOARD V752515
SHEET 1 OF 5 CONTROL
MODIFICATIONS RESERVED 18OCT95

R	
C	
MISC.	

CHARACTER GENERATOR

INTERNAL WHITE FIELD GENERATOR

TELETEXT DECODER

SDA 5273

U29

U25 SAA5252

U37 HCT157

U31 74HC4053

U38 4053B

U38 LS07

U26 MAX811

U30 MB81C4256

INT WF

CVBS5252

SDA

SCL

SAD

BLANKING SAD

CHAR RED

CHAR GREEN

CHAR BLUE

TXT BL

RES

CVBS5273

HRES

VRES

INTERN TEST

I2CEN

DAS273

CLS273

HL INTERN TEST

TP6

PRODUCT SAFETY NOTICE

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CONTROL & SYNC sheets :
Sheet 1 : CONTROL
✓ Sheet 2 : CHARACTER GENERATOR & TELETEXT
Sheet 3 : REMOTE CONTROL
Sheet 4 : TIMING
Sheet 5 : SAD & VITC

C2

CONTROL & SYNC VERSION 2 CVM 3000
PRINTED CIRCUIT BOARD V752515
SHEET 2 OF 5 CHARACTER GENERATOR & TELETEXT
MODIFICATIONS RESERVED 18OCT95

R	
C	
MISC.	

J101

J102

PROGRAMMABLE USART & UART INTERFACE

RS-TO-TTL CONVERTER

RS-232 LOOP-THROUGH RELAY

DRAWN FOR MONITOR POWERED-ON

J5 REMOTE 2

J4 REMOTE 1

74HCT4053

MC145406L

PRODUCT SAFETY NOTICE

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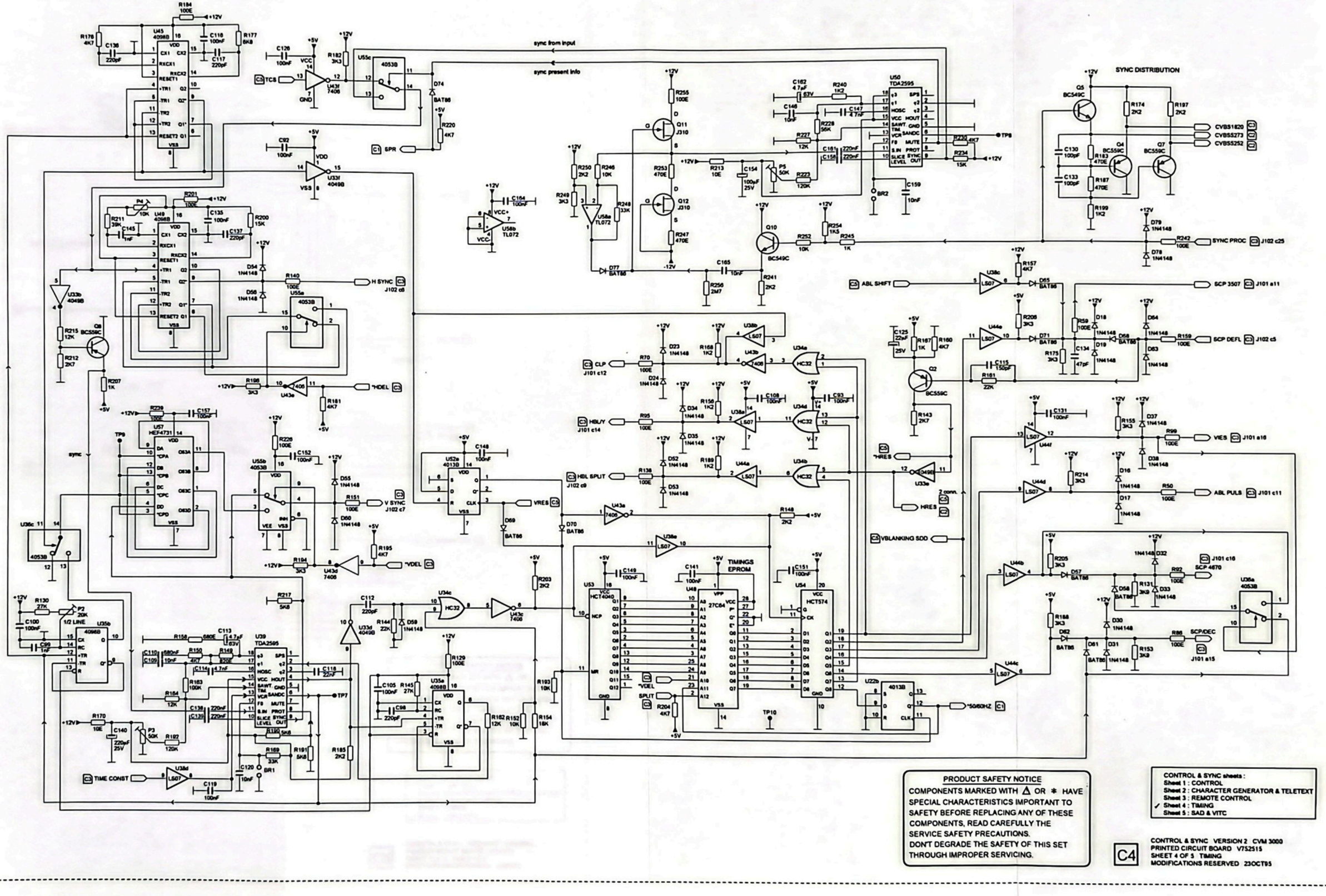
CONTROL & SYNC sheets :
- Sheet 1 : CONTROL
- Sheet 2 : CHARACTER GENERATOR & TELETEXT
- ✓ Sheet 3 : REMOTE CONTROL
- Sheet 4 : TIMING
- Sheet 5 : SAD & VITC

C3

CONTROL & SYNC VERSION 2 CVM 3000
PRINTED CIRCUIT BOARD V752515
SHEET 3 OF 5 REMOTE CONTROL
MODIFICATIONS RESERVED 19OCT95

R	P2	P4,P3	P5
C			
MISC.			



R	P6	P1
C		
MISC.		

VITC DECODER

U24 MV1820 — CVBS1820 — R117 4K7 — R118 4K7 — C60 10pF 63V — C72 10nF — C76 10nF — C97 10nF — C91 100nF — C69 39pF — C77 39pF — Y5 27.750MHz — R115 100E — R119 100E — SDA — SCL

U18 MB 654220 — C48 100nF — C82 100nF — C81 10pF 63V — Y3 14.318MHz — C54 100nF — TP1 — TP3 — TP2 — SEL VITC — VRES — HRES — D(0:7) — A(0:15)

U16 HCT574 — C43 100nF — SEL CHARVITC — U17 MB88303 — C31 10pF 63V — C44 100nF — R73 10K — R88 10K — R89 10K — *RES — *VRES — *HRES — LDI 88303 — P1 50K — R98 390K — C58 15pF — NO VITC — W1 — W2

U20 XC3030-70 — C42 100nF — C38 100nF — C57 100nF — R77 4K7 — SEL SAD — VRES — ABL SHIFT — TCS — VBLANKING SDD — BLANKING SAD — SAD — INTERN TEST — TC TEST TP4

U19 XC1736 — C49 10pF 63V — C45 100nF — R87 100E — R91 100E — R78 100E — R74 100E — R75 15K — R72 15K

U15b LM393 — C37 100nF — R61 4K7 — R71 18K — R59 10K — C36 100nF — R60 1K — R53 1K — R54 4K7 — U15a LM393 — U33a 40498 — VFLB J102 c15 — R171 100E — D87 1N4148 — D86 1N4148 — U33c 40498 — C41 470pF — R68 10K — D22 BAT86 — *VRES — VRES — VRES — VRES

CAL POS SAD — P6 4K7 — R244 15K — U52b 4013B — C183 470pF — TP5 — 7 µs — HRES — W3 — C149

U21b L500 — U21a L500 — R81 220E — L2 V775018 — C52 82pF — C47 47pF

U21d L500 — U21c L500 — R102 390E — R100 1K — R97 1K — D36 TL431C — C46 100nF — C51 10uF 63V

C73 100nF — U26d L500

Y6 4 MHz — R111 1K5 — R110 1K5 — U26c L500 — U26a L500 — U26b L500

C64 100nF — U27 161A

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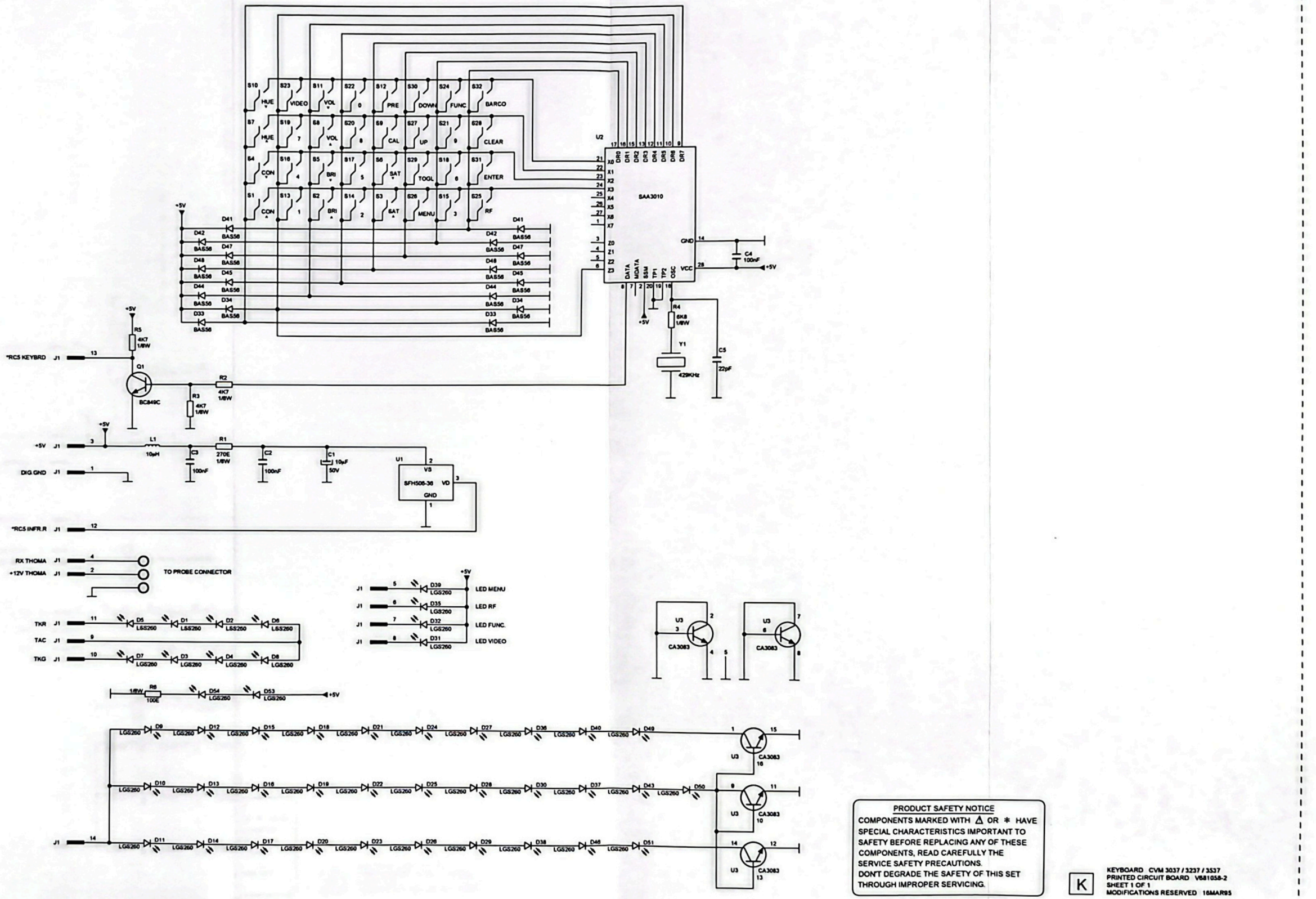
CONTROL & SYNC sheets :
Sheet 1 : CONTROL
Sheet 2 : CHARACTER GENERATOR & TELETEXT
Sheet 3 : REMOTE CONTROL
Sheet 4 : TIMING
✓ Sheet 5 : SAD & VITC

C5

CONTROL & SYNC VERSION 2 CVM 3000
PRINTED CIRCUIT BOARD V752515
SHEET 5 OF 5 SAD & VITC
MODIFICATIONS RESERVED 24OCT95

R	
C	
MISC	



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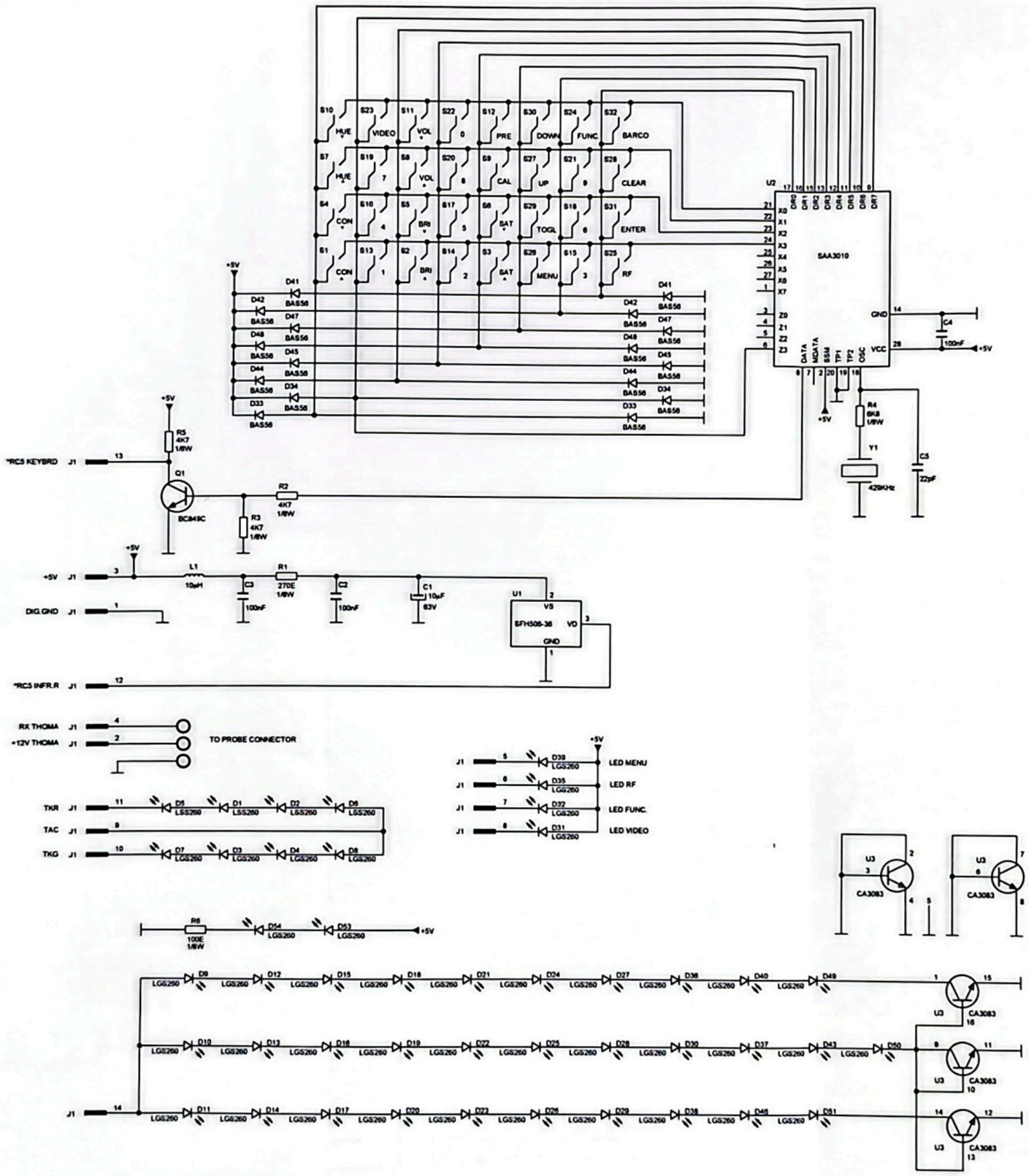
K

KEYBOARD CVM 3037 / 3237 / 3537
PRINTED CIRCUIT BOARD V681058-2
SHEET 1 OF 1
MODIFICATIONS RESERVED 16MAR95

R	
C	
MISC.	


S10 HUE
S23 VIDEO
S11 VOL
S22 0
S12 PRE
S30 DOWN
S24 FUNC.
S32 BARCO
S7 HUE
S19 7
S8 VOL
S20 8
S9 CAL
S27 UP
S21 9
S28 CLEAR
S4 CON
S10 4
S5 BRI
S17 5
S6 SAT
S29 TOGL
S18 6
S31 ENTER
S1 CON
S13 1
S2 BRI
S14 2
S3 SAT
S26 MENU
S15 3
S25 RF
U2
SAA3010
GND
VCC
C4
100nF
+5V
R4
6K8
1/8W
Y1
429KHz
C5
22pF
*RC5 KEYBRD J1
R5
4K7
1/8W
Q1
BC849C
R2
4K7
1/8W
R3
4K7
1/8W
+5V J1
L1
10µH
R1
270E
1/8W
C3
100nF
C2
100nF
C1
10µF
63V
U1
SFH506-36
VS
VD
GND
DIG.GND J1
*RC5 INFR.R J1
RX THOMA J1
+12V THOMA J1
TO PROBE CONNECTOR
TKR J1
TAC J1
TKG J1
LED MENU
LED RF
LED FUNC.
LED VIDEO
CA3083
R6
100E
1/8W
PRODUCT SAFETY NOTICE
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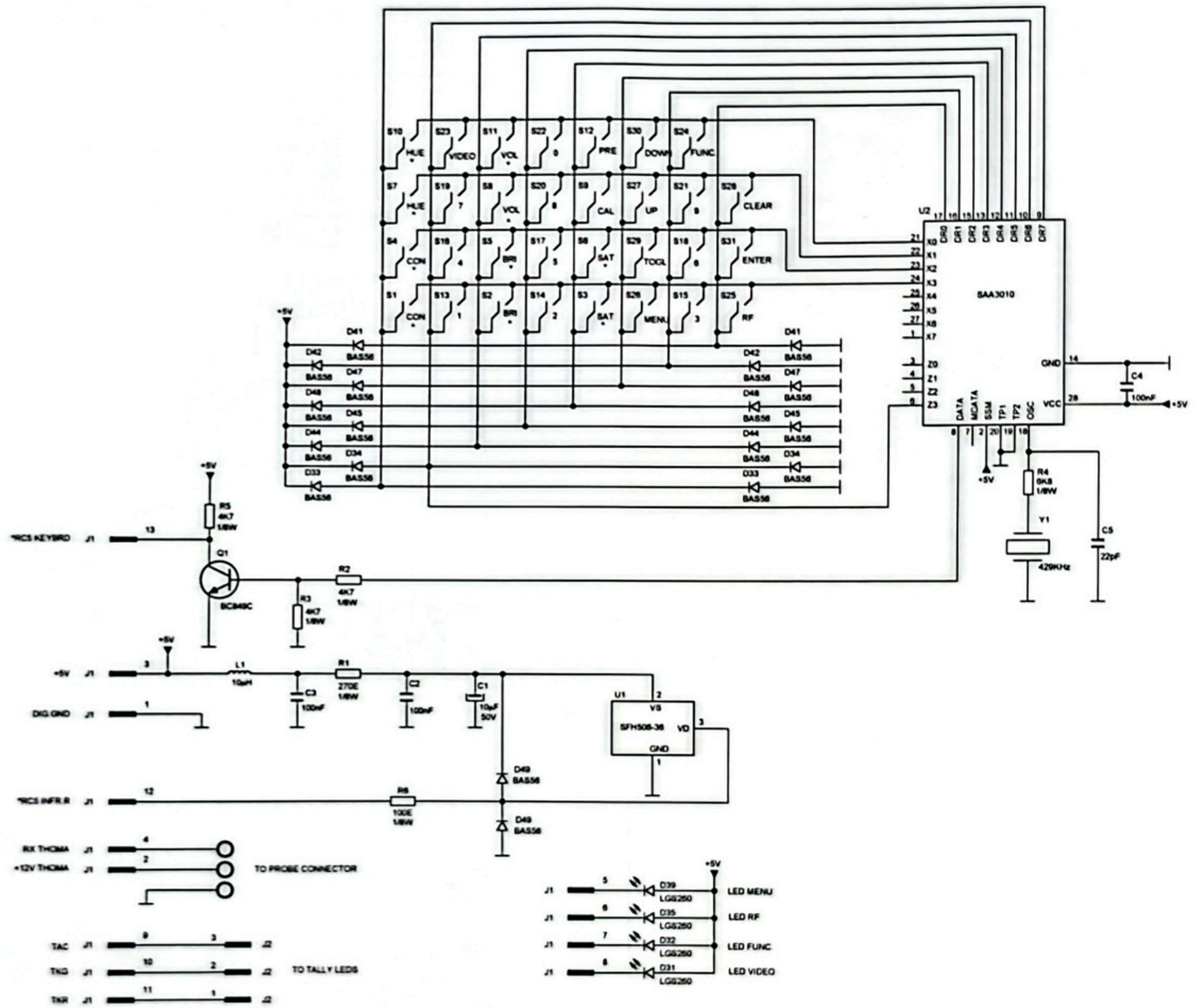
K
KEYBOARD CVM 3051 / 3551
PRINTED CIRCUIT BOARD V681068-1
SHEET 1 OF 1
MODIFICATIONS RESERVED 18MAR95

R	
C	
MISC	



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K

KEYBOARD CVM 3137 / 3337 / 3637 / 3653 / 3673
PRINTED CIRCUIT BOARD V681083-1
SHEET 1 OF 1
MODIFICATIONS RESERVED 16MAR95

C&S

	A J101 C	
1	NICAM MUTE	CON
2	NICAM C1	SAT
3	NICAM C2	BRI
4		HLB
5	HLG	HLR
6		LLB
7	CHAR BLUE	
8	LLG	CHAR GREEN
9	BACKL	
10	LLR	CHAR RED
11	SCP 3507	ABL PULS
12	TXT BL	CLP
13	BLL-R-Y	BLL-B-Y
14	SDA EXT	HBL Y
15	SCP DEC	SCL EXT
16	VIES	SCP 4670

TUNER RF

	A J201 C	
1		NICAM MUTE
2		NICAM C1
3		NICAM C2
4		HLB
5	HLG	HLR
6	GND CRT	LLB
7	CHAR BLUE	GND CRT
8	LLG	CHAR GREEN
9	GND CRT	GND CRT
10	LLR	CHAR RED
11	SCP 3507	ABL PULS
12	TXT BL	CLP
13	BLL-R-Y	BLL-B-Y
14	SDA EXT	HBL Y
15	SCP DEC	SCL EXT
16	VIES	SCP 4670

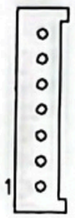
AUDIO DIG.MOD

	A J401 C	
1	OPT RED	NICAM MUTE
2	OPT GREEN	NICAM C1
3	OPT BLUE	NICAM C2
4		HLB
5	HLG	HLR
6	GND CRT	LLB
7	CHAR BLUE	GND CRT
8	LLG	CHAR GREEN
9	GND CRT	GND CRT
10	LLR	CHAR RED
11	SCP 3507	ABL PULS
12	TXT BL	CLP
13	BLL-R-Y	BLL-B-Y
14	SDA EXT	HBL Y
15	SCP DEC	SCL EXT
16	VIES	SCP 4670

DEC/RGB

	A J601 C	
1	OPT RED	CON
2	OPT GREEN	SAT
3	OPT BLUE	BRI
4	BCL	HLB
5	HLG	HLR
6	LLB	CHAR BLUE
7	GND CRT	CRT BLUE
8	GND CRT	CRT GREEN
9	GND CRT	CRT RED
10	GND CRT	CHAR GREEN
11	LLG	ABL INFO
12	LLR	CHAR RED
13	SCP 3507	ABL PULS
14	TXT BL	CLP
15	BLL-R-Y	BLL-B-Y
16	SDA EXT	HBL Y

J4 CRT CON.



CRT BLUE
GND CRT
CRT GREEN
GND CRT
CRT RED
GND CRT
ABL INFO

DEFLECTION

	C J801 A	
16	+160V	+160V
15	GND +160V	GND +160V
14	+4V	+4V
13	GND +160V	GND +160V
12	+27V	+27V
11	−16V	−16V
10	GND	GND
9	−16V	−16V
8	+16V	+16V
7	SYNC SMPS	SYNC SMPS
6	VSCAN	VSCAN
5	HAM	HAM
4	+6.3V	+6.3V
3	GND +6.3V	GND +6.3V
2	GND VSCAN	GND VSCAN
1		

SMPS

	A J901 C	
1	+160V	+160V
2	GND +160V	GND +5V
3	+4V	+4V
4	+27V	+27V
5	GND +27V	GND +27V
6	GND	GND
7	−16V	−16V
8	GND	GND
9	+16V	+16V
10	SYNC SMPS	SYNC SMPS
11	VSCAN	VSCAN
12	HAM	HAM
13	+190V	+190V
14	DEG	DEG
15	GND VSCAN	GND VSCAN
16	+5V	+5V

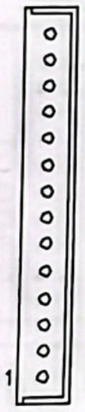
	A J102 C	
1	INT WF	DEG
2	RC5 KEYB	INT WF
3		HUE
4	RC5 IR RC	CLP/CHAR
5	HSYNC	SCP DEFL
6	TKR	HSYNC
7		VSYNC
8	TKG	HFLB
9	IRQ	HBL SPLIT
10	TAC	IRQ
11	LED VID	
12	LED FUNC	
13		
14	LED RF	
15		VFLB
16	LED MENU	
17	+27V	+27V
18	RX PROBE	
19	+5V	+5V
20	+12V PROBE	
21	+16V	+16V
22		
23	−16V	−16V
24		
25	SYNC SMPS	SYNC PROC
26		
27		
28		
29	GND +5V	GND +5V
30		
31	GND +5V	GND +5V
32		

	A J202 C	
1	INT WF	DEG
2		HUE
3	HSYNC	SCP DEFL
4		VSYNC
5	IRQ	HBL SPLIT
6	Y TO PPT	CLP/CHAR
7	AUDIO OUTL	AUDIO OUTR
8	HFLB	VFLB
9	+27V	+27V
10	+5V	+5V
11	+16V	+16V
12	−16V	−16V
13	+160V	
14	Y RF	SYNC PROC
15	GND	GND
16	GND +27V	GND +27V

	A J402 C	
1	INT WF	DEG
2	RGB SW	HUE
3	HSYNC	SCP DEFL
4		VSYNC
5	IRQ	HBL SPLIT
6	Y TO PPT	CLP/CHAR
7	AUDIO OUTL	AUDIO OUTR
8	HFLB	VFLB
9	+27V	+27V
10	+5V	+5V
11	+16V	+16V
12	−16V	−16V
13	+160V	SYNC PROC
14	Y RF	Y PPT/DIG
15	GND	GND
16	GND +27V	GND +27V

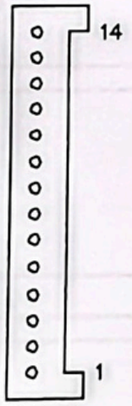
	A J602 C	
1	SCL EXT	SCP DEC
2	SCP 4670	VIES
3	INT WF	DEG
4	RGB SW	HUE
5	HSYNC	SCP DEFL
6	CLP/CHAR	VSYNC
7	IRQ	HBL SPLIT
8	HBL/SDD	VFLB
9	+27V	+27V
10	+5V	+5V
11	+16V	+16V
12	−16V	−16V
13	+160V	SYNC PROC
14	Y RF	Y PPT/DIG
15	GND	GND
16	GND +27V	GND +27V

J1 KEYBOARD CON.



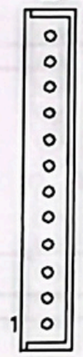
BACKL
RC5 KEYB
RC5 IR RC
TKR
TKG
TAC
LED VID
LED FUNC.
LED RF
LED MENU
RX PROBE
+5V
+12V PROBE
GND +5V

J2 POWER CON.



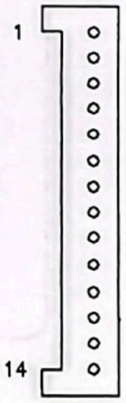
+27V
+27V
+5V
+5V
+16V
−16V
GND
GND
GND
GND +27V
GND +27V
GND +5V
GND +5V
+160V

J3 PULS CON.



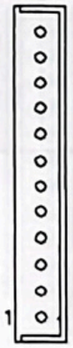
VFLB
BCL
SDA EXT
SCL EXT
DEG
SCP DEFL
HSYNC
VSYNC
HFLB
SYNC SMPS

J5 POWER CON.



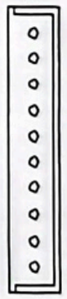
+27V
+27V
+5V
+5V
+16V
−16V
GND
GND
GND
GND +27V
GND +27V
GND +5V
GND +5V
+160V

J6 PULS CON.



VFLB
BCL
SDA EXT
SCL EXT
DEG
SCP DEFL
HSYNC
VSYNC
HFLB
SYNC SMPS

J7 CRT POWER



+190V
GND
SPOT SUP
+16V
−16V
+6.3V
+6.3V
GND +6.3V
GND +6.3V

J8 DEG CON

DEG COIL1
DEG COIL2

J9 MAIN CON

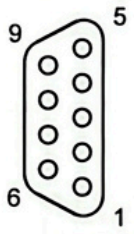
POWER SW3
POWER SW4
POWER SW2
POWER SW1

	C J802 A	
16		
15		
14	VFLB	VFLB
13	BCL	BCL
12	SDA EXT	SDA EXT
11	SCL EXT	SCL EXT
10	DEG	DEG
9	SCP DEFL	SCP DEFL
8	HSYNC	HSYNC
7	VSYNC	VSYNC
6	HFLB	HFLB
5	SPOT SUP	SPOT SUP
4		
3		
2		
1		

	A J902 C	
1		
2		
3		
4		
5		
6	DEG COIL1	DEG COIL1
7		
8	DEG COIL2	DEG COIL2
9	POWER SW3	POWER SW3
10		
11	POWER SW4	POWER SW4
12		
13	POWER SW2	POWER SW2
14		
15	POWER SW1	POWER SW1
16		

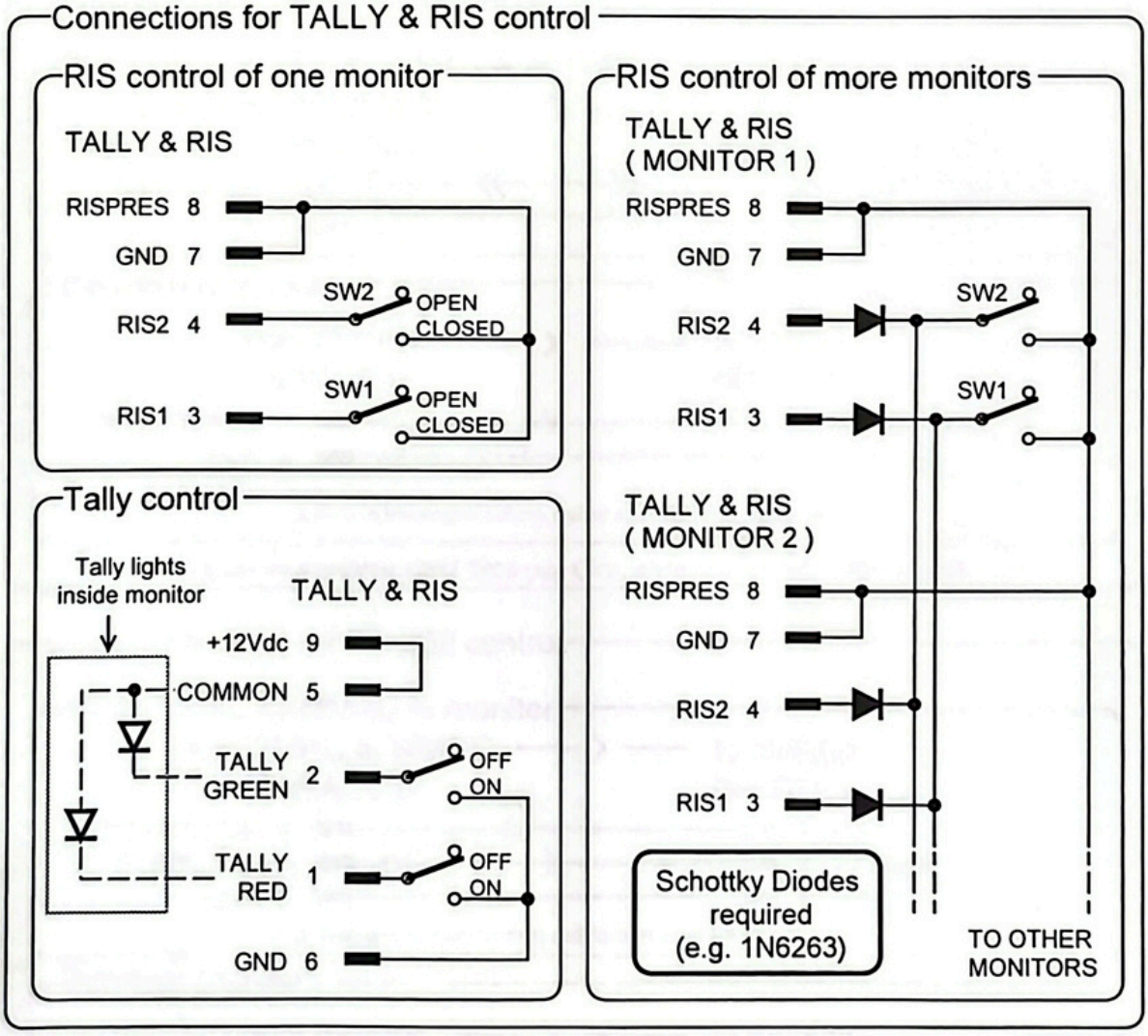
CVM 3000 Connections for Tally Lights & RIS control
Modifications Reserved, August 24, 1994

TALLY & RIS



9	+12 Vdc
8	RISPRES
7	GND
6	GND

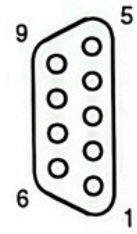
5	COMMON (ANODE LEDs)
4	RIS2
3	RIS1
2	TALLY GREEN
1	TALLY RED



CVM 3000 Connections for Remote Control

Modifications Reserved, January 17, 1996

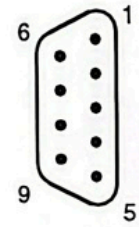
REMOTE 1



9	+5 V
8	RX RS232
7	TX RS232
6	GND

5	NC
4	NC
3	NC
2	NC
1	TX-RC5 WIRED

REMOTE 2



6	GND
7	NC
8	RX RS232
9	NC

1	RX-RC5 WIRED
2	NC
3	NC
4	NC
5	RX-RC5 TRANSMITTER

Interconnections for RC5 Control

From MRC 3000 to monitor, via IR (Infrared) or wired as :

wired from MRC 3000 —— > —— to monitor

SERIAL OUT — DC — REMOTE 2

SERIAL OUT 1 — 5 RX-RC5 TRANSMITTER

GND 2 — 6 GND

Between monitors

from monitor —— > —— to monitor

REMOTE 1 — REMOTE 2

TX-RC5 WIRED 1 — 1 RX-RC5 WIRED

GND 6 — 6 GND

a 9-wire interconnection cable can be used as well

Monitors should be CVM 3000 (not CVS, AVM, other CVM, CPM or HDM)

Interconnections for RS-232 control

From SMRC or MMRC to monitor

from SMRC or MMRC —— > —— to monitor

SERIAL OUT — DC — REMOTE 1

(SMRC only) +5V 9 — 9 +5V

SERIAL OUT 8 — 8 RX RS232

GND 6 — 6 GND

a 9-wire interconnection cable can also be used

Between monitors

from monitor —— > —— to monitor

REMOTE 2 — REMOTE 1

RX RS232 8 — 8 RX RS232

GND 6 — 6 GND

maximum 12 monitors in loop

CVM 3000

ADJUSTMENT PROCEDURE CVM 3000

ADJUSTMENT PROCEDURE CVM 3000

MODIFICATIONS RESERVED 9 December 1994

1. POWER SUPPLY

Connect a voltmeter to TP7 or to connector J901 pin AC 9 (+16V output).
Take the ground at TP 9 or pin AC 8.
Adjust **P1** for +15.15 Vdc.
Check secondary outputs at connector J901 :

+ 160 Vdc	AC 1	Ground at AC 2
+ 4 Vdc	AC 3	Ground at AC 5
+ 27 Vdc	AC 4	Ground at AC 5
- 16 Vdc	AC 7	Ground at AC 8
+ 16 Vdc	AC 9	Ground at AC 8
+ 70 - 150 Vdc	AC 11	Ground at AC 15
+ 190 Vdc	AC 13	Ground at AC 8
+ 5V dc	AC 16	Ground at AC 8

2. EHT / DEFLECTION

2.1. EHT adjust

Since P2 (EHT Limit) and P3 (EHT Adjust) are normally sealed, both presets have to be replaced if a readjustment is required.
Connect a EHT meter to the anode of the CRT.
Set **P2** in maximum position.
Adjust **P3** for +27.5 kVdc.
Readjust **P2** for limit condition (picture becomes unstable).
Readjust **P3** for +24.5 kVdc.

2.2. BCL (Beam Current Limitter)

Apply a full white video signal.
Measure the light output with a colour analyzer
Increase the contrast level for maximum.
Adjust **P1** (BCL) for 180 nit.

2.3. Geometry alignment

All geometry parameters except for Hor Linearity (**L13**) and Hor shift (**P4**) are available using the frontal keyboard .
How to adjust the geometry is described in the User Section.

continued on next page

3. VIDEO & RGB

Connect a Video generator to the Coded A input and make a loop-through with R, G and B.

3.1. QUAD decoder adjustments

Oscillator adjustment
Set monitor in ACC ON mode (Keyboard Extension Menu 2).
Apply PAL colour bars as input signal.
Connect probe A of an oscilloscope to the video input signal.
Connect probe B to TP69.
Make a short circuit on J608.
Adjust **C194** for zero beat.
Remove the short circuit.
Apply a NTSC colour bars as input signal.
Make a short circuit on J608.
Adjust **C219** for zero beat.
Remove the short circuit.
Switch-off B-Y.
Connect probe B to TP68.
Adjust **P14** for minimum amplitude (this is a preadjustment; for a more precise adjustment see item 3.6).

SECAM adjustment
Apply a Secam colour bars as input signal.
Connect probe B to TP78 (Chroma Input).
Adjust **L16** for flat subcarrier response.
Set C213 in mid-position.
Connect probe B to TP68.
Adjust **L19** for no set-up on B -Y output signal.
Connect probe B to TP69.
Adjust **P16** for no set-up on R -Y output signal.
Repeat L19 and P16 adjustments.

Notch filter adjustments
Apply a PAL colour bars as input signal.
Connect probe B to TP29.
Adjust **L9** for minimum chroma signal.
Apply a 2T-Bar as input signal.
Adjust **L6** and **L3** for equal bottom distortion.

Apply a NTSC colour bars as input signal.
Connect probe B to TP30.

continued on next page

Adjust **L10** for minimum chroma signal.
Apply a 2T-Bar as input signal.
Adjust **L7** and **L4** for equal bottom distortion.
Apply a 2T pulse as input signal.
Remove the jumper J610.
Connect probe B to TP28.
Adjust **L8, L5** and **L2** for minimum bottom distortion.
Reinstall the jumper J610.

3.2 Brightness calibration

Select the RGB input.
Apply a colour bars signal at the input.
Be sure the monitor is in the calibrated position.
Connect an oscilloscope to TP12.
Trigger on vertical rate to display the vertical interval period.
Set the oscilloscope in DC and adjust **P1** so that the bottom of the AKB pulse and the bottom of the following horizontal lines are on the same level.

Best is to carry out adjustment **5.1** now (VG2 adjustment).

3.3 Contrast calibration (preadjustment)

Apply a colour bars signal at the input.
Connect an oscilloscope to the green cathode of the CRT.
Trigger at horizontal rate.
Set the CON 100 value on the 6500 K Service Page to 100.
Adjust **P2** for a peak to peak amplitude of 20Vpp.
Note that this is a preadjustment. For a more precise adjustment, see 3.4.

3.4 Matching of the Y output

3.4.1 LOWLIGHTS MATCHING

Black level PAL Decoder
Apply a Pal Black Burst signal at the input.
Select RGB input.
Increase the Brightness level for a light output of about 0.7 nit.
Use the green low level light output as reference for other inputs (*).
Select now Coded A.
Adjust **P18** for the same value as in RGB input mode (*).
Press CAL for normal brightness level.

Black level NTSC Decoder

Apply a NTSC generator.
Select in Keyboard Extension (MENU 2) SETUP ELIMINATION NO.
Select on the generator a Black burst signal with no set-up.
Increase the Brightness level for a light output of about 0.7 nit.
Use the green low level light output as reference .
Select on the generator a Black burst signal with set-up (7.5%).
Select in Keyboard Extension (MENU 2) SETUP ELIMINATION YES.
Adjust P19 for the same light output as in previous step.
Press CAL for normal brightness level.

3.4.2 HIGHLIGHTS MATCHING

White level PAL Decoder / Component

Apply a 100% white window signal at the input.
Push CAL.
Select RGB input.
Select MENU 6, SERVICE PAGE 9, 6500K 1.
Set in mid-positions : CON 100 (100), HL (127) and LL (100) (press CAL).
Store this information with ENTER + 0 followed by ENTER.
Measure the light output on the screen.
Adjust **P2** (Contrast Calibration) for a light output value according to the CRT type :

37 IH EBU	68 nit	51 IM	72 nit
37 IH ASP	78 nit	51 IH	76 nit
37 PS	78 nit	51 PS	68 nit

Measure the light output and use the value for Green in next step (**).
Select Component Input and Monochrome.
Adjust **P5** for the same value as in RGB input mode (**).
Select Coded A and Monochrome Filtered.
Adjust **P9** for the same value as in RGB input mode (**).
Select Monochrome Full Bandwidth.
Adjust **P8** for the same value as in RGB input mode (**).

3.4.3 INTERNAL WHITE FIELD

Internal White Field

Press CAL.
Select MENU 6, SERVICE PAGE 9, WHITE FIELD 8.
A white window signal appears on the screen with corresponding value for calibration.
Measure the light output and adjust by using the keys UP / DOWN for corresponding light output (**).
Save the value by pressing ENTER.
Press 0 followed by ENTER.
Press several times CLEAR for exit.

3.4.4 SCAN MATCHING

Scan Matching

Select MENU 6, SERVICE PAGE 9, SCAN MATCHING 7.
A white window signal appears on the screen in Reference position (Underscan 4/3).
Measure the light output and use the G-value as reference.
Select 2 for Overscan 4/3.
Adjust with UP/DOWN for the same light output as Underscan 4/3.
Select 3 for Underscan 16/9.
Adjust with UP/DOWN for the same light output as Underscan 4/3.
Select 4 for Overscan 16/9.
Adjust with UP/DOWN for the same light output as Underscan 4/3.
Save the new values and leave Scan Matching pressing **CLEAR**.

Colour Temperature adjustment

Adjust the monitor for Colour temperature 6500K at a level of 90 nit.
You can use the internal signal as reference.

3.4.5 CHARACTER MATCHING

Character alignment

Select MENU 6, Manual with internal signal 1, CHARACTERS 6.
A white window signal appears on the screen corresponding with the luminance and colour temperature of the characters.
Adjust manually the white field for again 90 nit.
Select therefore 1 for Red, 2 for Green and 3 for Blue.
Use UP/DOWN to change the corresponding values.
Press ENTER to save the new values.

3.5 Black Level adjustments

R-Y / B-Y Black level adjustment for Decoder

Apply a PAL Black burst level as input signal.
Select Coded A input and Monochrome Filtered.
Select MENU 6, SERVICE PAGE 9, BLACK LEVELS 9.
Increase the brightness level with BRI UP/DOWN for about 0.7 nit.
Measure the light output for R, G, B (push TOGL for no character information on the screen).
Select 8 for Colour Mode.
Measure the light output R,G, B.
Adjust if necessary the R-Y (1) and B-Y (2) for the same colour temperature as in monochrome mode.

Use UP/DOWN to change the values for R-Y and B-Y.
Use 8 to change between Mono and Colour mode.
Select ENTER + 0 followed by ENTER to save the new values.

R-Y / B-Y Black level adjustment for Component

Select Component Input and Monochrome with Black as input signal.
Select MENU 6, SERVICE PAGE 9, BLACK LEVELS 9.
Increase the brightness level with BRI UP/DOWN for about 0.7 nit.

Measure the light output for R, G, B (push TOGL for no character information on the screen).
Select **8** for Colour Mode.
Measure the light output R, G, B.
Adjust if necessary the R-Y (1) and B-Y (2) for the same colour temperature as in monochrome mode.
Use UP/DOWN to change the values for R-Y and B-Y.
Use 8 to change between Mono and Colour mode.
Use 0 for normal Brightness level.
Select ENTER + 0 followed by ENTER to save the new values.

R-Y / B-Y Black level adjustment for SECAM
Select Coded A
Apply a SECAM black level as input signal.
Set the Saturation to maximum (200).
Select Monochrome Filtered.
Increase the brightness level for about 0.7 nit.
Measure the low level output and use these values as reference (***).
Select Colour mode.
Measure again the low level light output and verify for identical values (***).
Adjust if necessary C213 for Blue and P16 for Red.

3.6 Saturation and Hue calibration

Connect a Component generator with colour bars to the monitor.
Connect a Pal generator with colour bars to the Coded A input.
Connect a NTSC generator with colour bars to the Coded B input

3.6.1 COMPONENT SATURATION & MATRIX

Select Component Input.
Connect the probe of an oscilloscope to the Blue cathode.
Adjust **P3** for equal blue bars.
Connect the probe of an oscilloscope to the Green cathode.
Adjust **P4** for correct decoder matrix.

3.6.2 ACC-ON COMPOSITE SATURATION, MATRIX & HUE

Select Coded A (PAl).
Apply PAL colour bars.
Select in MENU 2 (Keyboard Extension) ACC for ON.
Connect the probe of an oscilloscope to the Blue cathode.
Adjust **P7** for equal blue bars.
Connect the probe of an oscilloscope to the Green cathode.
Adjust **P6** for correct decoder matrix.
Select Coded B (NTSC).
Apply NTSC colour bars
Be sure the monitor is in ACC ON mode.
Connect the probe of an oscilloscope to the Blue cathode.
Adjust **P14** for correct Hue

3.6.3 ACC-OFF COMPOSITE SATURATION, PHASE & HUE

Select Coded A (PAL).
Apply PAL colour bars.
Select in MENU 2 (Keyboard Extension) ACC for OFF.
Apply a PAL colour bars as input signal.
Check at TP65 for +4.5 Vdc (if necessary readjust **P15**).
Set jumpers J615, J612 and J613 in position A.
Connect the probe of an oscilloscope to the Blue cathode.
Adjust **P12** for equal blue bars.
Adjust **P11** for correct burst phase (use therefor a corresponding test pattern).
Attenuate the input signal for - 10 dB.
Adjust **P17** for monochrome operation.
Set again the signal for normal.

Select Coded B (NTSC).
Apply NTSC colour bars.
Adjust **P10** for correct Hue (probe on Blue cathode).
Adjust **P13** for correct Saturation.

3.7 Y-Delay calibration

Select Coded A (PAL)
Apply a colour test pattern for Y delay adjustment.
Select MENU 6, SERVICE PAGE 9, Y Delay 6.
Adjust with UP/DOWN for correct Y delay.
Store with ENTER + 0 Followed with ENTER.
Use several times CLEAR to exit.

Select Coded B (NTSC 3.58).
Apply a colour test pattern for Y delay adjustment.
Repeat previous procedure to adjust Y delay.

Select Coded C (SECAM).
Apply a colour test pattern for Y delay adjustment.
Repeat previous procedure to adjust Y delay.

Save and leave the Y-Delay Service Page.

3.8 Frequency response

Connect a video sweep generator to Coded A input and make a loop through with R, G and B. Terminate at B.
Select the RGB input.
Connect a 2 pF probe to the Red Cathode of the CRT.
Adjust **C11** on the CRT socket for flat response till 6 MHz ± 1 dB.
Connect a 2 pF probe to the Green Cathode of the CRT.
Adjust **C12** on the CRT socket for flat response till 6 MHz ± 1 dB.
Connect a 2 pF probe to the Blue Cathode of the CRT.
Adjust **C13** on the CRT socket for flat response till 6 MHz ± 1 dB.

Select Coded A and Monochrome Full Bandwidth.
Connect a 2 pF probe to the Green Cathode of the CRT.
Adjust **C124** on the decoder board for flat response till 6 MHz ± 1 dB.

4. CONTROL & SYNC BOARD

Apply a Pal Colour Bars as input signal.

SCP (Sand castle Pulse) adjustment
Connect probe 1 of an oscilloscope to connector J102 pin C25 (Incoming video or Sync signal).
Connect probe 2 of the oscilloscope to connector J102 pin A15 (SCP DEC pulse).
Short circuit J7.
Adjust **P3** for zero beating between the two signals.
Remove the short circuit.

Hor Delay position
Set monitor in Hor. Delay position.
Probe A at input video signal pin C25 connector J102.
Probe B at pin C6 connector J102.
Adjust **P1** for a delay time of 38 µs ± 1 µs.
Set again the monitor in normal position.

1/2 line adjustment
Probe A on input video signal pin C25 connector J102.
Probe B at TP3 connector J102.
Adjust **P2** for a delay time of 33.5 µs ± 1 µs.

continued on next page

5. CRT SOCKET

5.1 VG2 adjustment

Apply a colour bars signal at the input.
Be sure the monitor is in the calibrated position.
Connect an oscilloscope to the green cathode of the CRT.
Trigger on vertical rate to display the vertical interval period.
Set the oscilloscope in DC and adjust **VG2** (marked as **Screen**) so that the bottom of the AKB pulse is at +100 Vdc.

5.2 Frequency response

See adjustment procedure Decoder board section 3.8.

CVM 3000

PARTS LISTS OF MODULES
VERSION 2

List of Parts Lists on following pages

Switched Mode Power Supply	combined V5635050/51/52
EHT & Deflection	combined V5635090/91/92/93/94/95
EHT & Deflection (CVM 3653)	V5635096
EHT & Deflection (CVM 3670)	V5635097
Analog Input & Decoder	V5635003
CRT Socket	combined V5635020/22/23/24/25
CRT Socket (CVM 3537 PS & 3637 PS)	V5635021
Control & Sync	combined V5635010/11
Control & Sync (with SAD)	combined V5635015/16

PARTS LIST
SWITCHED MODE POWER SUPPLY
Order number of a complete modules : V5635050, V5635051, V5635052

Component differences between modules :

Module	CVM Monitors	R42	R61	R73	C89	F1,F2	S1 + button & wiring
V5635050	3037,3237,3537,3051,3551	8K2	33K	2K2	2M2	4A	W1 & W2 mounted
V5635051	3137,3337,3637	8K2	33K	2K2	2M2	4A	K324792 + V6222050, W3, W4
V5635052	3653,3670	220E	47K	2K4	100M	6A3	K324792 + V6222050, W3, W4

With items :

Order number		Description	Reference to above list of differences
V101528		R MF H220E F 0W4 E3	R42
V101540		R MF H 2K2 F 0W4 E3	R73
V101547		R MF H 8K2 F 0W4 E3	R42
V101554		R MF H 33K F 0W4 E3	R61
V101556		R MF H 47K F 0W4 E3	R61
V1026406		R MF H 2K4 F 0W6 E4	R73
V1114859		C EL RA 100M M200E3 105	C89
V1150802		C PPMERA 2M2K250E11	C89
K3141041	!	F T 4A H 5X20 RU/VDE	F1, F2 on V5635050 & V5635051
C314145	!	F T 6A3 L 5X20 RU/VDE	F1, F2 on V5635052
K324792	!	SW MNS JPZ 2M TV5 BS	S1
V348102		WU JUMP 0.6 7.5	W2
V348103		WU JUMP 0.6 10	W1, W3
V348106		WU JUMP 0.6 17.5	W4
V6222050		BTN PUSH R17X13 ON/OFF V	QTY:1, Pushbutton for Mains Switch S1

Common components :

Order number		Description	Item
V1011249	!	R CFFH100E J 0W25	R98
V1011998	!	R CFFH E1 K 0W35	R62 ,R90
V101266		R MF H330K J 0W5 E4	R128
V101500		R MF H 1E F 0W4 E3	R39
V101504		R MF H 2E2 F 0W4 E3	R8
V101512		R MF H 10E F 0W4 E3	R74 ,R77 ,R78 ,R80
V101515		R MF H 18E F 0W4 E3	R4
V101520		R MF H 47E F 0W4 E3	R2
V101522		R MF H 68E F 0W4 E3	R65
V101524		R MF H100E F 0W4 E3	R107,R109,R41 ,R51 ,R58 ,R68 , R71
V101528		R MF H220E F 0W4 E3	R14 ,R37 ,R93
V101529		R MF H270E F 0W4 E3	R34
V101531		R MF H390E F 0W4 E3	R92
V101532		R MF H470E F 0W4 E3	R21
V101535		R MF H820E F 0W4 E3	R5
V101536		R MF H 1K F 0W4 E3	R27 ,R43 ,R50 ,R70 ,R75
V101537		R MF H 1K2 F 0W4 E3	R28
V101538		R MF H 1K5 F 0W4 E3	R136
V101539		R MF H 1K8 F 0W4 E3	R47
V101540		R MF H 2K2 F 0W4 E3	R106,R108,R110,R44 ,R46
V101542		R MF H 3K3 F 0W4 E3	R67
V101543		R MF H 3K9 F 0W4 E3	R69
V101544		R MF H 4K7 F 0W4 E3	R111,R29 ,R88
V101545		R MF H 5K6 F 0W4 E3	R66
V101546		R MF H 6K8 F 0W4 E3	R56
V101547		R MF H 8K2 F 0W4 E3	R53 ,R54 ,R60
V101548		R MF H 10K F 0W4 E3	R104,R135,R20 ,R45 ,R52 ,R55 , R57 ,R59 ,R7 ,R72
V101549		R MF H 12K F 0W4 E3	R112,R38
V101550		R MF H 15K F 0W4 E3	R134,R15
V101554		R MF H 33K F 0W4 E3	R113,R118
V101555		R MF H 39K F 0W4 E3	R95
V101556		R MF H 47K F 0W4 E3	R127

Order Number	Description	Item
V101558	R MF H 68K F 0W4 E3	R49
V101559	R MF H 82K F 0W4 E3	R16
V101560	R MF H100K F 0W4 E3	R40 ,R48
V101561	R MF H120K F 0W4 E3	R103,R140
V101563	R MF H180K F 0W4 E3	R117
V101566	R MF H330K F 0W4 E3	R133
V101568	R MF H470K F 0W4 E3	R87
V101571	R MF H820K F 0W4 E3	R137
V102348	R MF H 10K J 3W E10	R96
V1026006	R MF H 1K F 0W6 E4	R130,R139
V1026048	R MF H110K F 0W6 E4	R83
V1026177	R MF H 15K F 0W6 E4	R12
V1026198	R MF H158K F 0W6 E4	R84
V1026486	R MF H 3K16F 0W6 E4	R85 ,R86
V1026506	R MF H 3K32F 0W6 E4	R138
V1026587	R MF H 39K F 0W6 E4	R13
V1026657	R MF H 47K5 F 0W6 E4	R81 ,R82
V1026658	R MF H475K F 0W6 E4	R129
V1026680	R MF H 5K11F 0W6 E4	R17
V102900	R MF H 1E J 2W E7	R63
V102909	R MF H 5E6 J 2W E7	R3
V102910	R MF H 6E8 J 2W E7	R1
V102912	R MF H 10E J 2W E7	R26
V102940	R MF H 2K2 J 2W E7	R76
C102944	R MF H 4K7 J 2W E7	R64
V102956	R MF H 47K J 2W E7	R79
V103201	R MO H E22J 1W5	R33 ,R6
V103620	R WW H 4E7 K 4W	R102
V103622	R WW H 6E8 K 4W	R19
C103632	R WW H 47E K 4W	R25
V104340	R WW V 1K K 9W	R89 ,R91
V104345	R WW V 2K7 K 9W	R18 ,R24
V104358	R WW V 33K K 9W	R31
V104648	R HV H390K J 0W5 3500	R10 ,R22 ,R35 ,R9
V105016	R NTC 4E7 M 3W2	R23
K105125	R VDRR 275	R131
C105210	R PTC 110V	R100
V105211	R PTC 30E 220	R101
V107005	R TCE H500E K 0W5 S 7TS	P1
C1113719	C EL RA1000M M 50E3 105	C74
V1114004	C EL RA 47M M250E3 105	C72
V1114169	C EL RA 10M M350E2 105	C52 ,C64
C1114189	C EL RA 22M M350E3 105	C57
V1114709	C EL RA1000M M 16E2 105	C80
V111475	C EL RA 2M2M400E2 105	C50
V111477	C EL RA 100M M 25E2 85	C81
K1114777	C EL RA 100M M 25E2 105	C39 ,C45 ,C49
V111478	C EL RA 220M M 25E2 105	C87
V1114799	C EL RA 470M M 25E2 105	C3 ,C4 ,C78
V1114815	C EL RA2200M M 25E3 105	C79 ,C84
V1114922	C EL RA 2M2M 50E1 105	C11
V1114952	C EL RA 22M M 50E1 105	C88 ,C92
V1114955	C EL RA 22M M 50E2 105	C96
V1114959	C EL RA 22M M 63E2 105	C33
V1114972	C EL RA 100M M 10E1 105	C77
V1115109	C EL RA 22M M 25E2 105	C29 ,C98
V1115119	C EL RA 47M M 25E2 105	C17
V1115319	C EL RA 10M M 50E2 105	C100,C67
V1115509	C EL RA 4M7M 63E2 105	C35
V1116435	C EL RA 470M M200E4 105	C20 ,C21
V112362	C N750MI 100P G100E2	C10
V112367	C N750MI 270P G100E2	C101
V1127740	C X7R MU 100N K100E2 125	C12 ,C19 ,C2 ,C32 ,C38 ,C40 , C41 ,C47 ,C53 ,C54 ,C99
V1127830	C X7R MU 100N K 50E2 125	C
V112817	C CE DI 220P M400E2	C51 ,C62 ,C70 ,C71
C112837	C CE DI 10N S400E3	C14 ,C22 ,C26 ,C27 ,C30 ,C46 , C61
V114034	C POMERA 22N K250E4 85	C75
V114081	C POMERA 15N K 63E2 85	C16

Order Number		Description	Item
V114082		C POMERA 22N K 63E2 85	C37 ,C9
V114083		C POMERA 33N K 63E2 85	C42
V114088		C POMERA 100N K 63E2 85	C58
V114092		C POMERA 470N K 63E2 85	C34
V114096		C POMERA 1M K 50E2 85	C63
V114099		C POMERA 3M3M 50E2 85	C1 ,C82 ,C86 ,C90 ,C91 ,C95
V114480		C PO RA 1N M100E2 85	C13 ,C28 ,C36 ,C48
C1147009		C CE DI 4N7M400E5 Y	C25 ,C31
C1147105		C PO RA 100N M250E6 X2	C94
C1147169	!	C PO RA 1M M250E11 X2	C7
V115000		C PPMERA 15N J102E9 HV	C24
V115009		C PPMERA 1N8J162E9 HV	C23
V1150772		C PPMERA 1M2K250E11	C83
V1150802		C PPMERA 2M2K250E11	C85
V115121		C PC PO 470P M400E4 100	C69
V1151572		C PP RA 470P H100E2 85	C15
V115181		C PC RA 220P K160E2 100	C43
V1151821		C PC RA 470P K160E2 100	C18
V116305		C PP RA 10N H 63E2 85	C44
V131411		Q BC549C N SS TO92	Q2 ,Q20 ,Q4 ,Q6 ,Q7 ,Q8
V1314182		Q BC559C P SS TO92	Q11 ,Q3 ,Q5 ,Q9
V131426		Q BC337 N SS TO92	Q10 ,Q13
V1316211		D S 1N4148 075150 DO35	D13 ,D14 ,D18 ,D49 ,D50 ,D52 , D55 ,D58 ,D59
V131627		D S BAV21 200250 DO35	D10 ,D11 ,D21 ,D22 ,D46 ,D57 , D9
C131646		D R 1N4007 10201A DO41	D23 ,D24 ,D25
V131667		D LED D3 T GN	D20
V131692	!	U 82A CNX DIP6 P	U2
C131720		D ZEN 6V2 0W5 C DO35	D40
V1317205		D REF 6V2 0.005% DO34	D16
V1317292		D ZEN 4V7 0W5 B DO35	D29 ,D32
V131762		D ZEN 16V 0W5 C DO35	D28 ,D44
V131776		D ZEN 180V 0W4 C DO35	D39
C131782		D ZEN 5V1 1W3 C DO41	D1
C131902		D R BY255 13203A DO13	D12 ,D15 ,D17 ,D6 ,D7 ,D8
V1319033		D R BYD33J 6001A3 SOD81	D19 ,D3 ,D38 ,D53 ,D54 ,D56
V131914		D R BYW96E 10203A SOD64	D30 ,D31
V131918		D R BY329 10208A TO220C	D2
V1319182		D R BY229 20007A TO220C	D34
V131921		D BY299 R DO13	D4
V1319495		D BYV29-300 UFSR TO220	D33 ,D35 ,D36
V131953		D MUR880E UFSR TO220	D27 ,D37
V131954		D BYV27-200 R SOD57	D26
C132213		Q BT151-500R TH P TO220	TH1
V132500		Q MPSA44 N SS TO92	Q15
V132501		Q BC327-25 P SS TO92	Q12
V132512		Q BF587 N P TO202	Q18
V132533		Q BUW13 N P SOT93	Q1
V132610		Q IRF740 FN P TO220	Q14
V132618		Q BSS101 FN SS TO92	Q24
V132744		U 8380 TDA DIP16 P	U1
B1329351		Q BUX87P N P SOT82	Q16 ,Q19
V133022		Q ACC HTSNK DUAL TO220	N2
C133054		Q ACC CLIPS SOT93	QTY:1
R133074		Q ACC ISO SIL600 W 30	
B134059		U 5600IS HIP TO220 P	U6
B134062		U 2941A MIC TO220/5P	U7
C137296		U 494 TL DIP16 P	U3
V302132		CORE TUBE 6 / 3 X10	L1
V3062221		CH TOR V 80 UH 2A	L4 ,L9
V306243	!	CH MNS 24 MH 2X 4A	L2
V306244		CH 1.1 MH 2X 2A	L8
V306436		CH MNS 2.5 MH 1A	L10
V306442	!	T PULSE 4043/76	T2
V306445		COIL DRIVER CU10 2.5MH	L5
V306722	!	T SMP AT3020/01A	T1
V3110631		D ACC HLDR D3 P1 T H 4.8	D.20
C313220		R ACC HLDR H10 WW V	N3 ,N4 ,N5 ,N6 ,N9
V3132642	!	FLTR MNS 250V 6A T6	Mains Connector

Order Number	Description	Item
V3132862	J MD1 C MBT P 2 E1SN 6.7	J4
V3133501	SPR PCB L 4 D3 PUSH	QTY:1
C313590	J EUR2C MBS P32 E2C2S 1.6	J901,J902
V313607	J SL FL MBT P 3 M3.96 RP	J1
V313611	J SL HSG LR P 3 M3.96	QTY:1
V314504	F ACC HLDR T UNIV PC/CPL	F'1 ,F'2
K3153155	J RVT MBT D 2.3L12.7	QTY:4
V3243452	RLY 90V 2C BV MNS M	K1
V324348	RLY 12V 2C BV MNS M UL	K2
K34214003	WU UIT	T.1
K34214011	WU UL1007 AWG24 SO BK 110	T..1
K3440271	CD RECRNG 1015AWG18YG 100	QTY:1
V3481044	WU JUMP 0.6 12.7	L6
V3481048	WU JUMP 0.51 12.7 ISO	QTY:1
V3496601	CD RECSL 1672AWG22WH 70	QTY:1
V3496611	CD RECSL 1672AWG22BK 70	QTY:1
V361912	SCR D965 M 3 X 6 STZN	QTY:2
V3621212	SCR Z7985 M 3 X 6 STZN	QTY:2,QTY:2
V362199	SCR Z7985 M 3 X 8 STZN	0422
V366103	NUT D934 M 4 STZN	QTY:1
V367401	RVT D2.4 L 9.1 P A	QTY:4
V367503	SPR D6798AD 4.3D 8 STZN	QTY:1
V367600	NUT TRAD M 3 BLOCK BRNI	N10 ,N8 ,0410
V3953601	Q ACC ISO SIL ADH 25X 30	QTY:1
A575214	CH AX NS 17 UH 2A	L14 ,L16
A575218	CH AX NS 100 UH 1A	L11 ,L12 ,L13 ,L15 ,L7
V590216	LBL GROUND YL	QTY:1
V601664	HEATSINK SMPS CVM3000	QTY:1
V601670	PLATE MAINS IN CVM3000	QTY:1
V602950	J TAB1 BT D	TP1 ,TP2 ,TP3 ,TP4 ,TP5 ,TP6 , TP7
V752509	PCB SMPS VII CVM3000	PCB1
K802777	FIX PJ49 Q SPG 2X M3	QTY:3

PARTS LIST
EHT & DEFLECTION VERSION 2

Parts Lists of following EHT & Deflection modules :

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ITEM : V5635090     UN DEFL CVM3037IH, CVM3137IH
ITEM : V5635091     UN DEFL CVM3537PS, CVM3637PS
ITEM : V5635092     UN DEFL CVM3051IM
ITEM : V5635093     UN DEFL CVM3551PS
ITEM : V5635094     UN DEFL CVM3051IH
ITEM : V5635095     UN DEFL CVM3237IH, 3337IH
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Components differences between modules :

MODULE NR FOR CVM	V5635090 3037 IH 3137 IH	V5635091 3537 PS 3637 PS	V5635092 3051 IM	V5635093 3551 PS	V5635094 3051 IH	V5635095 3237 IH 3337 IH
R3	no	V1012998	V1012998	V1012998	no	no
R15	V1012998	V1012998	V1012998	V1012998	V1012998	no
R16	no	no	no	no	no	V1012998
R27	V1012998	no	no	no	V1012998	V1012998
R33	V1026927	V1026927	V101558	V101558	V101558	V1026927
R50	V102336	V102334	V102334	V102334	V102336	V102921
R124	V101506	V101506	V101505	V101508	V101506	V101507
R125	V101506	V101506	V101505	V101506	V101506	V101501
R126	V101515	V101515		V101508	no	no
R152	V101536	V101536	V101535	V101535	V101534	V101534
R153	V3481044	V3481044	V101528	V3481044	V101539	V101542
R187	no	V101543	no	no	no	no
R197	V101540	V101540	V101540	V101540	V101543	V101545
R222	V1033366	V1033366	V1033366	V1033366	V103330	V103326
R240	V1035993	V102910	V1035993	V1035993	V103599	V103598
R244	V104245	V104245	V104245	V104245	V104245	V104250
C88	V115010	V115010	V115010	V115010	V115010	V115007
C89	no	no	no	no	no	no
C96	C112821	C112821	C112821	C112821	V112817	V112817
C113	V1150772	V1150752	V1150772	V1145961	V1150761	V1150802
C114	no	no	no	no	V1150761	V1150761
C116	no	no	no	no	no	V1150761
C118	V115012	V115010	V115012	V1150103	V115007	V115003
D35	V131779	V131781	V131781	V131781	V131779	V131779
L9	V306436	V306436	V306436	V306436	V3481094	V306436
L13	V775163	V775163	V775163	V775163	V775163	V3481084
L14	V7753135	V306413	V7753135	V306446	V306447	V306447
L15	V775431	K774315	V775431	V775430	V775432	V775433
30 mm wire	no	no	no	no	no	K34216803

With item descriptions :

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ITEM NO.     ITEM-DESCRIPTION
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V1012998  ! R  CFFH    E1 K 0W5
V101501     R  MF H  1E2 F 0W4  E3
V101505     R  MF H  2E7 F 0W4  E3
V101506     R  MF H  3E3 F 0W4  E3
V101507     R  MF H  3E9 F 0W4  E3
V101508     R  MF H  4E7 F 0W4  E3
V101515     R  MF H 18E  F 0W4  E3
V101528     R  MF H220E  F 0W4  E3
V101534     R  MF H680E  F 0W4  E3
V101535     R  MF H820E  F 0W4  E3
V101536     R  MF H  1K  F 0W4  E3
V101539     R  MF H  1K8 F 0W4  E3
V101540     R  MF H  2K2 F 0W4  E3
V101542     R  MF H  3K3 F 0W4  E3
V101543     R  MF H  3K9 F 0W4  E3
V101545     R  MF H  5K6 F 0W4  E3
V101558     R  MF H 68K  F 0W4  E3
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Order Number	Description	Item
V102334	R MF H680E J 3W E10	
V102336	R MF H 1K J 3W E10	
V1026927	R MF H 90K9 F 0W6 E4	
V102910	R MF H 6E8 J 2W E7	
V102921	R MF H 56E J 2W E7	
V103326	R MO H150E J 4W	
V103330	R MO H330E J 4W	
V1033366	R MO H 1K J 6W	
V103598	R WW R E47K 2W E4	
V103599	R WW R 2E2 K 2W E4	
V1035993	R WW R 4E7 K 2W E4	
V104245	R WW V 2K7 K 7W	
V104250	R WW V 6K8 K 7W	
V112817	C CE DI 220P M400E2	
C112821	C CE DI 470P M400E2	
V1145961	C PPMERA 910N K250E11	
V115003	C PPMERA 10N J102E9 HV	
V115007	C PPMERA 8N2J162E9 HV	
V115010	C PPMERA 2N2J162E9 HV	
V1150103	C PPMERA 3N3J162E9 HV	
V115012	C PPMERA 4N7J162E9 HV	
V1150752	C PPMERA 820N K250E11	
V1150761	C PPMERA 1M M160E9	
V1150772	C PPMERA 1M2K250E11	
V1150802	C PPMERA 2M2K250E11	
V131779	D ZEN 15V 1W3 C DO41	
V131781	D ZEN 27V 1W3 C DO41	
V306413	CL LIN MCD12	
V306436	CL LIN MCD12	
V306447	CH MNS 2.5 MH 1A	
K34216803	WU UL1007 AWG24 ST WH 30	
V3481044	WU JUMP 0.6 12.7	
V3481084	WU JUMP 0.6 22.86	
V3481094	WU JUMP 0.6 25.4	
K774315	T MN50 HOR SHIFT	
V775163	CHOKE AX 0.4 2.5UH	
V7753135	ADJ LIN UN CVS	
V775430	T MCD10/12 HOR SHIFT	
V775431	T MCD12T HOR SHIFT	
V775432	T CCID9X74 HOR SHIFT	
V775433	T ICD200 HOR SHIFT	

Common components for all modules :

Order number	Description	Item
V101253	R MF H 27K J 0W5 E4	R12 ,R262
V101254	R MF H 33K J 0W5 E4	R13 ,R14
V1012998 !	R CFFH E1 K 0W5	R27
V101500	R MF H 1E F 0W4 E3	R172,R177,R99
V101512	R MF H 10E F 0W4 E3	R119,R132,R140,R169,R183,R186, R193,R196,R199,R205,R208,R220, R224,R232,R237,R248,R4 ,R40 , R56 ,R63 ,R67 ,R68 ,R7 ,R76 , R8
V101516	R MF H 22E F 0W4 E3	R123
V101524	R MF H100E F 0W4 E3	R102,R122,R133,R143,R154,R155, R180,R181,R182,R184,R185,R191, R201,R216,R221,R234,R235,R246, R249,R28 ,R32 ,R64 ,R86 ,R95
V101528	R MF H220E F 0W4 E3	R18
V101530	R MF H330E F 0W4 E3	R229
V101532	R MF H470E F 0W4 E3	R130
V101533	R MF H560E F 0W4 E3	R78
V101534	R MF H680E F 0W4 E3	R100,R72 ,R74
V101535	R MF H820E F 0W4 E3	R107,R251
V101536	R MF H 1K F 0W4 E3	R131,R157,R188,R210,R30 ,R39 , R41 ,R45 ,R47 ,R51 ,R52 ,R84 , R91

Order Number		Description	Item
V101537		R MF H 1K2 F 0W4 E3	R24 ,R25 ,R38 ,R87
V1015371		R MF H 1K1 F 0W4 E3	R163
V101538		R MF H 1K5 F 0W4 E3	R59 ,R69
V101540		R MF H 2K2 F 0W4 E3	R103,R111,R142,R190,R219,R82 , R88 ,R9
V101541		R MF H 2K7 F 0W4 E3	R168,R194,R203,R98
V101542		R MF H 3K3 F 0W4 E3	R101
V101544		R MF H 4K7 F 0W4 E3	R106,R115,R117,R141,R144,R149, R167,R212,R231,R238,R5 ,R61 , R73 ,R79 ,R80 ,R92 ,R97
V101546		R MF H 6K8 F 0W4 E3	R110,R170,R192,R202,R57 ,R81
V101547		R MF H 8K2 F 0W4 E3	R10 ,R105,R214,R226,R242,R70
V101548		R MF H 10K F 0W4 E3	R112,R127,R166,R171,R19 ,R206, R207,R217,R227,R228,R239,R36 , R37 ,R43 ,R44 ,R55 ,R60 ,R71 , R75 ,R77 ,R93
V101549		R MF H 12K F 0W4 E3	R116,R156,R175
V101550		R MF H 15K F 0W4 E3	R109,R22 ,R23 ,R263,R62 ,R90
V101551		R MF H 18K F 0W4 E3	R121
V101552		R MF H 22K F 0W4 E3	R174,R200,R89
V101553		R MF H 27K F 0W4 E3	R213,R225,R241
V101555		R MF H 39K F 0W4 E3	R58
V101556		R MF H 47K F 0W4 E3	R104,R120,R198,R204,R209,R211, R245,R53 ,R65
V101557		R MF H 56K F 0W4 E3	R215,R233
V101558		R MF H 68K F 0W4 E3	R118
V101559		R MF H 82K F 0W4 E3	R46
V101560		R MF H100K F 0W4 E3	R108,R128,R223,R256,R26 ,R34 , R35 ,R42 ,R94
V101561		R MF H120K F 0W4 E3	R134,R20 ,R85
V101563		R MF H180K F 0W4 E3	R29
V101566		R MF H330K F 0W4 E3	R21
V101567		R MF H390K F 0W4 E3	R114
V102032		R CC H470E K 0W5	R11
V102330		R MF H330E J 3W E10	R195
V102336		R MF H 1K J 3W E10	R230
V1026006		R MF H 1K F 0W6 E4	R165
V1026046		R MF H 1K1 F 0W6 E4	R145
V1026066		R MF H 1K15F 0W6 E4	R261
V1026087		R MF H 12K1 F 0W6 E4	R129
V1026336		R MF H 2K21F 0W6 E4	R150,R173
V1026466		R MF H 3K01F 0W6 E4	R113
V1026656		R MF H 4K75F 0W6 E4	R260
V1026925		R MF H909E F 0W6 E4	R135
V1026927		R MF H 90K9 F 0W6 E4	R33
V102921		R MF H 56E J 2W E7	R50
C103632		R WW H 47E K 4W	R146
V104215		R WW V 8E2 K 7W	R1
K1046701		R HV H 4M7 J 1W 10000	R2 ,R6
V106518		R TWW V100E K 3W D20NC	P4
V106732	!	R TCE H 50K K 0W5 S10TS	P3
V107004		R TCE H200E M 0W5 S7 TS	P1
V107010	!	R TCE H 20K M 0W5 S7 TS	P2
V1113885		C EL RA 47M M100E2 105	C64
V1114004		C EL RA 47M M250E3 105	C1
V111471		C EL RA1000M M 25E3 105	C38
K1114777		C EL RA 100M M 25E2 105	C16 ,C26 ,C46 ,C48 ,C86 ,C92 , C97
V111478		C EL RA 220M M 25E2 105	C41 ,C50
V111497		C EL RA 100M M 63E2 105	C5
V1115119		C EL RA 47M M 25E2 105	C11 ,C63
V1115319		C EL RA 10M M 50E2 105	C105,C108,C111,C119,C120,C122, C124,C127,C128,C22 ,C32 ,C54 , C59 ,C70 ,C80
V1115469		C EL RA 1M M 50E2 105	C77
V1115509		C EL RA 4M7M 63E2 105	C52
K111571		C EL RA 2M2M350E2 85	C
V111679		C EL BRA 10M M 25E2 85	C110,C98
V111681		C EL BRA 22M M 25E2 85	C101,C91

Order Number	Description	Item
V1120902	C CE DI 100P K202E3 HV	C100
V1127510	C X7R MU 10N K 50E2 125	C15
V1127741	C Z5U MU 100N Z100E2 85	C102,C104,C12 ,C121,C123,C129, C21 ,C3 ,C30 ,C31 ,C33 ,C34 , C39 ,C42 ,C47 ,C51 ,C58 ,C60 , C65 ,C7 ,C75 ,C78 ,C82 ,C9 , C90 ,C93 ,C94
V112833	C CE DI 4N7S400E3	C132,C14
C112835	C CE DI 6N8S400E3	C130
V114080	C POMERA 10N K 63E2 100	C103,C18 ,C55 ,C56 ,C73 ,C81
V114081	C POMERA 15N K 63E2 100	C99
V114082	C POMERA 22N K 63E2 100	C19 ,C44 ,C66 ,C72
V114085	C POMERA 56N K 63E2 100	C69
V114088	C POMERA 100N K 63E2 100	C29 ,C45 ,C6 ,C67 ,C71 ,C83
V114090	C POMERA 220N K 63E2 100	C53 ,C8 ,C84 ,C85
V114091	C POMERA 330N K 63E2 100	C106,C107
V114092	C POMERA 470N K 63E2 100	C17 ,C57 ,C61 ,C74
V114094	C POMERA 680N M 50E2 100	C36
V114096	C POMERA 1M K 50E2 100	C4
V114480	C PO RA 1N M100E2 100	C20
V1144801	C PO RA 1N J100E2 100	C27
V114486	C PO RA 6N8M100E2 100	C109
C114636	C PPMERA 47N M162E11 HV	C23
V115008	C PPMERA 1N5J202E9 HV	C25
V1150125	C PPMERA 5N6J162E9 HV	C24
V1150642	C PPMERA 100N K250E6	C125,C13 ,C43
V1150682	C PPMERA 220N K250E6	C40 ,C49
V1150722	C PPMERA 470N K250E9	C112
V1150761	C PPMERA 1M M160E9	C2
V115167	C PP RA 4N7J 63E2 85	C68
V115181	C PC RA 220P K160E2 100	C126,C28
V116305	C PP RA 10N H 63E2 85	C10
V116315	C PP RA 4N7 H160E2 85	C62
V131411	Q BC549C N SS TO92	Q16 ,Q17 ,Q20 ,Q21 ,Q24 ,Q28 , Q38 ,Q39 ,Q41 ,Q43 ,Q44 ,Q9
V1314182	Q BC559C P SS TO92	Q19 ,Q25 ,Q4 ,Q8
V131426	Q BC337 N SS TO92	Q12 ,Q15 ,Q2 ,Q22 ,Q34 ,Q5 , Q7
V1315046	D Y BAT86 050200 DO34	D22 ,D27 ,D52
V1316211	D S 1N4148 075150 DO35	D10 ,D11 ,D24 ,D29 ,D37 ,D41 , D45 ,D5 ,D7
V131627	D S BAV21 200250 DO35	D14 ,D15 ,D21 ,D26 ,D30 ,D33 , D36 ,D38 ,D39 ,D40 ,D42 ,D43 , D55 ,D56 ,D9
V131662	D LED D3 T RD	D19 ,D20
V131716	D ZEN 5V1 0W5 C DO35	D17 ,D44 ,D48 ,D57
V1317205	D REF 6V2 0.005% DO34	D16
V1317292	D ZEN 4V7 0W5 B DO35	D34
V131744	D ZEN 5V6 0W5 C DO35	D18
V131758	D ZEN 15V 0W5 C DO35	D25
V131762	D ZEN 16V 0W5 C DO35	D2
V131781	D ZEN 27V 1W3 C DO41	D32
V1319035	D BYD33M FSR SOD81	D28 ,D31 ,D46 ,D58 ,D59 ,D6 , D60
V131930	D Y 0301A0 DO41	D61
V1319495	D BYV29-300 UFSR TO220	D12
V1319531	D BYT12PI-800 UFSR SOT186	D3
V131954	D BYV27-200 R SOD57	D1 ,D4 ,D63 ,D64
V131956	D MUR10120E UF R TO220	D13
V131909	D Y 01045A TO220	D23
V132194	U 072 TL DIP8 P	U18 ,U2 ,U9
V132501	Q BC327-25 P SS TO92	Q11 ,Q18 ,Q26 ,Q27 ,Q3 ,Q30 , Q6
V132517	Q BUX84 N P TO220	Q42
V132572	Q BU2508A N P SOT93	Q14
V1325721	Q BU2508D N P SOT93	Q37
V132610	Q IRF740 FN P TO220	Q1
V132611	Q IRF540 FN P TO220	Q13
V132618	Q BSS101 FN SS TO92	Q29

Order Number		Description	Item
V132623		Q BSV81 FN SS TO72	Q23
V132707		U 3080 CA DIP8 P	U19 ,U20 ,U21
V132761		U 8432 TDA DIP24 P	U8
V1330145		Q ACC MNTG PAD TO18	Q.23
R133074		Q ACC ISO SIL600 W 30	0110,0210
V133089		Q ACC HTSNK TO220	N1 ,N3
B133308		U 8351 TDA SIP9 P	U7
C134002		U 7812 TO220 P	U12 ,U5
V134018		U 431C TL TO92 P	U13 ,U14 ,U6
B134062		U 2941A MIC TO220/5P	U23
V1341091		U 555 TLC DIP8 P	U10 ,U4
V134144		U 064C TL DIP14 P	U17
V137259		U 8444 TDA DIP16 P	U16
V1372961		U 494 TL DIP16 I	U1
V137719		U 2595 TDA DIP18 P	U11
V302132		CORE TUBE 6 / 3 X10	L3
V306434		COIL E/W INJECT 4043/60	L6
V306436		CH MNS 2.5 MH 1A	L11
V306445		COIL DRIVER CU10 2.5MH	L4
V306727		T DVR 4043/87	L12
V3110631		D ACC HLDR D3 P1 T H 4.8	D...
C313220		R ACC HLDR H10 WW V	N2 ,N6
C313590		J EUR2C MBS P32 E2C2S 1.6	J801,J802
C313613		J LV MBT P 6 R4M8 NP	J1
K3153155		J RVT MBT D 2.3L12.7	0400
V3481014		WU JUMP 0.6 5.08	D51 ,Q40
V3481024		WU JUMP 0.6 7.62	D66 ,R254,W3 ,W4
V3481044		WU JUMP 0.6 12.7	L..3,L7
V3620226		SCR D84 M 3 X 8 I	0101
V3621212		SCR D7985 M 3 X 6 SCZ	0211
V362199		SCR D7985 M 3 X 8 SCZ	A.1 ,0121,0311
V366102		NUT D934 M 3 S Z	0310
V3685408		NUT I KFS2 M 3	A..1
V601665		HEATSINK DEFL CVM3000	0100
V601667		FIX HEATS DEFL CVM3000	0102
V601774		HEATSINK FLYB CVM3600	0200
V602950		J TAB1 BT D	TP1 ,TP10,TP11,TP12,TP13,TP2 , TP3 ,TP4 ,TP5 ,TP6 ,TP7 ,TP8 , TP9
V603569		Q ACC SPG 3X 3.1	0220
V6035692		Q ACC SPG 2X 3.1	0120
V6710056		CH 3.7 MH	L5
V752500		PCB DEFL CVM3600	PCB1
V7754292	!	T EHT CVM3000	T5 (EHT Transformer)
V776919	*	T CVM3000 EHT	A1+A2 (Tripler+Bleeder)
R804831		Q ACC SPG 1X 3.1 LONG	0121

PARTS LIST
EHT & DEFLECTION (for CVM 3653)
Order number of a complete module : V5635096

Order number		Description	Item
V101253		R MF H 27K J 0W5 E4	R12 ,R262
V101254		R MF H 33K J 0W5 E4	R13 ,R14
V1012998	!	R CFFH E1 K 0W5	R15 ,R27 ,R31
V101500		R MF H 1E F 0W4 E3	R138,R172,R177,R99
V101501		R MF H 1E2 F 0W4 E3	R126
V101504		R MF H 2E2 F 0W4 E3	R125
V101507		R MF H 3E9 F 0W4 E3	R124
V101512		R MF H 10E F 0W4 E3	R119,R132,R139,R169,R183,R186, R193,R196,R199,R205,R208,R220, R224,R232,R237,R248,R4 ,R40 , R56 ,R63 ,R67 ,R68 ,R7 ,R76 , R8
V101516		R MF H 22E F 0W4 E3	R123
V101524		R MF H100E F 0W4 E3	R102,R122,R133,R143,R154,R155, R180,R181,R182,R184,R185,R189, R191,R201,R216,R221,R234,R235, R246,R249,R255,R28 ,R32 ,R64 , R86 ,R95
V101528		R MF H220E F 0W4 E3	R18
V101530		R MF H330E F 0W4 E3	R229
V101532		R MF H470E F 0W4 E3	R130
V101533		R MF H560E F 0W4 E3	R148,R178,R78
V101534		R MF H680E F 0W4 E3	R100,R72 ,R74
V101535		R MF H820E F 0W4 E3	R107,R251
V101536		R MF H 1K F 0W4 E3	R131,R157,R188,R210,R30 ,R39 , R41 ,R45 ,R47 ,R51 ,R52 ,R84 , R91
V101537		R MF H 1K2 F 0W4 E3	R161,R24 ,R25 ,R38 ,R87
V101538		R MF H 1K5 F 0W4 E3	R59 ,R69
V101540		R MF H 2K2 F 0W4 E3	R103,R111,R142,R190,R219,R82 , R88 ,R9
V101541		R MF H 2K7 F 0W4 E3	R168,R194,R98
V101542		R MF H 3K3 F 0W4 E3	R101,R151
V101543		R MF H 3K9 F 0W4 E3	R197
V101544		R MF H 4K7 F 0W4 E3	R106,R115,R117,R141,R144,R149, R212,R231,R238,R5 ,R61 ,R73 , R79 ,R80 ,R92 ,R97
V101546		R MF H 6K8 F 0W4 E3	R110,R170,R192,R202,R57 ,R81
V101547		R MF H 8K2 F 0W4 E3	R10 ,R105,R214,R226,R242,R70
V101548		R MF H 10K F 0W4 E3	R112,R127,R166,R171,R19 ,R206, R207,R217,R227,R228,R239,R36 , R37 ,R43 ,R44 ,R55 ,R60 ,R71 , R75 ,R77 ,R93
V101549		R MF H 12K F 0W4 E3	R116,R156,R175
V101550		R MF H 15K F 0W4 E3	R109,R137,R167,R22 ,R23 ,R263, R62 ,R90
V101551		R MF H 18K F 0W4 E3	R121
V101552		R MF H 22K F 0W4 E3	R174,R179,R200,R89
V101553		R MF H 27K F 0W4 E3	R213,R225,R241
V101555		R MF H 39K F 0W4 E3	R58
V101556		R MF H 47K F 0W4 E3	R120,R198,R204,R209,R211,R245, R53 ,R65 ,R66
V101557		R MF H 56K F 0W4 E3	R215,R233
V101558		R MF H 68K F 0W4 E3	R118,R33
V101559		R MF H 82K F 0W4 E3	R104,R46
V101560		R MF H100K F 0W4 E3	R108,R128,R223,R256,R26 ,R34 , R35 ,R42 ,R94
V101561		R MF H120K F 0W4 E3	R134,R20 ,R85
V101563		R MF H180K F 0W4 E3	R29
V101566		R MF H330K F 0W4 E3	R21
V101567		R MF H390K F 0W4 E3	R114
V102032		R CC H470E K 0W5	R11
V102330		R MF H330E J 3W E10	R195

Order Number		Description	Item
V102336		R MF H 1K J 3W E10	R230,R50
V1026006		R MF H 1K F 0W6 E4	R165
V1026046		R MF H 1K1 F 0W6 E4	R145
V1026066		R MF H 1K15F 0W6 E4	R261
V1026087		R MF H 12K1 F 0W6 E4	R129
V1026336		R MF H 2K21F 0W6 E4	R150,R173
V1026426		R MF H 2K74F 0W6 E4	R164
V1026466		R MF H 3K01F 0W6 E4	R113
V1026656		R MF H 4K75F 0W6 E4	R260
V1026925		R MF H909E F 0W6 E4	R135
V1035122		R WW R 1E K 2W E4	R240,R247
C103632		R WW H 47E K 4W	R146
V104215		R WW V 8E2 K 7W	R1
V104250		R WW V 6K8 K 7W	R244
V104342		R WW V 1K5 K 9W	R236,R243
K1046701		R HV H 4M7 J 1W 10000	R2 ,R6
V104690		R HV H 33M J 0W5 3500	R176
V106518		R TWW V100E K 3W D20NC	P4
V106732	*	R TCE H 50K K 0W5 S10TS	P3
V107004		R TCE H200E M 0W5 S7 TS	P1
V107010	*	R TCE H 20K M 0W5 S7 TS	P2
V1113885		C EL RA 47M M100E2 105	C64
V1114004		C EL RA 47M M250E3 105	C1
V111471		C EL RA1000M M 25E3 105	C38
K1114777		C EL RA 100M M 25E2 105	C16 ,C26 ,C46 ,C48 ,C86 ,C92 , C97
V111478		C EL RA 220M M 25E2 105	C41 ,C50
V111497		C EL RA 100M M 63E2 105	C35 ,C5
V1115119		C EL RA 47M M 25E2 105	C11 ,C63
V1115319		C EL RA 10M M 50E2 105	C105,C108,C111,C119,C120,C122, C124,C127,C128,C22 ,C32 ,C54 , C59 ,C70 ,C80
V1115469		C EL RA 1M M 50E2 105	C77
V1115509		C EL RA 4M7M 63E2 105	C52
V111679		C EL BRA 10M M 25E2 85	C110,C98
V111681		C EL BRA 22M M 25E2 85	C101,C91
C111760		C PPMERA 1N J202E9 HV	C118,C88
V1120902		C CE DI 100P K202E3 HV	C100
V1127510		C X7R MU 10N K 50E2 125	C15
V1127741		C Z5U MU 100N Z100E2 85	C102,C104,C12 ,C121,C123,C129, C21 ,C3 ,C30 ,C31 ,C33 ,C34 , C39 ,C42 ,C47 ,C51 ,C58 ,C60 , C65 ,C7 ,C75 ,C78 ,C82 ,C9 , C90 ,C93 ,C94
V112817		C CE DI 220P M400E2	C96
V112833		C CE DI 4N7S400E3	C132,C14
C112835		C CE DI 6N8S400E3	C130
V114080		C POMERA 10N K 63E2 100	C103,C18 ,C55 ,C56 ,C73 ,C81
V114081		C POMERA 15N K 63E2 100	C99
V114082		C POMERA 22N K 63E2 100	C19 ,C44 ,C66 ,C72
V114085		C POMERA 56N K 63E2 100	C69
V114088		C POMERA 100N K 63E2 100	C29 ,C45 ,C6 ,C67 ,C71 ,C87
V114090		C POMERA 220N K 63E2 100	C53 ,C8 ,C84 ,C85
V114091		C POMERA 330N K 63E2 100	C106,C107
V114092		C POMERA 470N K 63E2 100	C17 ,C57 ,C61 ,C74
V114094		C POMERA 680N M 50E2 100	C36 ,C76
V114096		C POMERA 1M K 50E2 100	C4
V114480		C PO RA 1N M100E2 100	C20
V1144801		C PO RA 1N J100E2 100	C27
V114486		C PO RA 6N8M100E2 100	C109
C114636		C PPMERA 47N M162E11 HV	C23
C1147009		C CE DI 4N7M400E5 Y	C95
V115003		C PPMERA 10N J102E9 HV	C117
V115006		C PPMERA 12N J102E9 HV	C116
V115008		C PPMERA 1N5J202E9 HV	C25
V1150125		C PPMERA 5N6J162E9 HV	C24
V1150221		C PPMERA 18N J400E6	C89
V1150642		C PPMERA 100N K250E6	C125,C13 ,C43
V1150662		C PPMERA 150N K250E6	C114

Order Number	Description	Item
V1150682	C PPMERA 220N K250E6	C113,C40 ,C49
V1150722	C PPMERA 470N K250E9	C112
V1150761	C PPMERA 1M M160E9	C115,C2
V115167	C PP RA 4N7J 63E2 85	C68
V115181	C PC RA 220P K160E2 100	C126,C28
V116305	C PP RA 10N H 63E2 85	C10
V116315	C PP RA 4N7 H160E2 85	C62
V131411	Q BC549C N SS TO92	Q16 ,Q17 ,Q20 ,Q21 ,Q24 ,Q28 , Q38 ,Q39 ,Q41 ,Q43 ,Q44 ,Q9
V1314182	Q BC559C P SS TO92	Q19 ,Q25 ,Q31 ,Q35 ,Q36 ,Q4 , Q8
V131426	Q BC337 N SS TO92	Q12 ,Q15 ,Q2 ,Q22 ,Q34 ,Q5 , Q7
V131471	Q BF458 N P TO126	Q32 ,Q33
V1315046	D Y BAT86 050200 DO34	D22 ,D27 ,D52
V1316211	D S 1N4148 075150 DO35	D10 ,D11 ,D24 ,D29 ,D37 ,D41 , D45 ,D5 ,D7
V131627	D S BAV21 200250 DO35	D14 ,D15 ,D21 ,D26 ,D30 ,D33 , D36 ,D38 ,D39 ,D40 ,D42 ,D43 , D55 ,D56 ,D9
V131662	D LED D3 T RD	D19 ,D20
V131716	D ZEN 5V1 0W5 C DO35	D17 ,D44 ,D48 ,D57
V1317205	D REF 6V2 0.005% DO34	D16
V1317292	D ZEN 4V7 0W5 B DO35	D34
V131744	D ZEN 5V6 0W5 C DO35	D18
V131758	D ZEN 15V 0W5 C DO35	D25
V131762	D ZEN 16V 0W5 C DO35	D2
V131779	D ZEN 15V 1W3 C DO41	D35
V131781	D ZEN 27V 1W3 C DO41	D32
V1319035	D BYD33M FSR SOD81	D28 ,D31 ,D46 ,D58 ,D59 ,D6 , D60 ,D8
V131917	D R BY228 15205A SOD64	D49 ,D50
V131930	D Y 0301A0 DO41	D61 ,D62
V1319495	D BYV29-300 UFSR TO220	D12
V1319531	D BYT12PI-800 UFSR SOT186	D3 ,D51
V131954	D BYV27-200 R SOD57	D1 ,D4 ,D63 ,D64
V131956	D MUR10120E UF R TO220	D13 ,D53 ,D54
V131965	D Y 04510A TO220	D23
V132194	U 072 TL DIP8 P	U18 ,U2 ,U9
V132501	Q BC327-25 P SS TO92	Q11 ,Q18 ,Q26 ,Q27 ,Q3 ,Q30 , Q6
V132517	Q BUX84 N P TO220	Q42
V1325721	Q BU2508D N P SOT93	Q37 ,Q40
V132599	Q BU2525A N P SOT93	Q14
V132610	Q IRF740 FN P TO220	Q1
V132611	Q IRF540 FN P TO220	Q13
V132618	Q BSS101 FN SS TO92	Q29
V132623	Q BSV81 FN SS TO72	Q23
V132707	U 3080 CA DIP8 P	U19 ,U20 ,U21
V132761	U 8432 TDA DIP24 P	U8
V1330145	Q ACC MNTG PAD TO18	Q.23
R133074	Q ACC ISO SIL600 W 30	
V133089	Q ACC HTSNK TO220	N1 ,N3
B133308	U 8351 TDA SIP9 P	U7
C134002	U 7812 TO220 P	U12 ,U5
V134018	U 431C TL TO92 P	U13 ,U15 ,U22 ,U6
B134062	U 2941A MIC TO220/5P	U23
V1341091	U 555 TLC DIP8 P	U10 ,U4
V134144	U 064C TL DIP14 P	U17
V137259	U 8444 TDA DIP16 P	U16
V1372961	U 494 TL DIP16 I	U1
V137719	U 2595 TDA DIP18 P	U11
V302132	CORE TUBE 6 / 3 X10	L3
K306407	CL LIN 4042/08A TV32	L14
V306434	COIL E/W INJECT 4043/60	L6
V306449	COIL BRIDGE 4043/68	L7
V306450	T DRIVER CU10 2.0MH	L4
V306729	T SMP AT3010/110LL	L1
V3110631	D ACC HLDR D3 P1 T H 4.8	D...

Order Number		Description	Item
C313220		R ACC HLDR H10 WW V	N2 ,N4 ,N5 ,N6
V3132862		J MD1 C MBT P 2 E1SN 6.7	BR1
C313590		J EUR2C MBS P32 E2C2S 1.6	J801,J802
C313613		J LV MBT P 6 R4M8 NP	J1
K3153155		J RVT MBT D 2.3L12.7	QTY:10
V3481024		WU JUMP 0.6 7.62	D66 ,W5 ,W7
V3481034		WU JUMP 0.6 10.16	W6
V3481044		WU JUMP 0.6 12.7	L..3
V3620226		SCR D84 M 3 X 8 I	QTY:2
V3621212		SCR D7985 M 3 X 6 SCZ	QTY:10
V362199		SCR D7985 M 3 X 8 SCZ	A.1 ,QTY:6 ,QTY:2
V366102		NUT D934 M 3 S Z	QTY:2
V3685408		NUT I KFS2 M 3	A..1
V601753		HEATSINK DEFL CVM3600	QTY:1
V601774		HEATSINK FLYB CVM3600	QTY:2
V602950		J TAB1 BT D	TP1 ,TP10,TP11,TP12,TP13,TP2 , TP3 ,TP4 ,TP5 ,TP6 ,TP7 ,TP8 , TP9
V603569		Q ACC SPG 3X 3.1	QTY:2
V6035692		Q ACC SPG 2X 3.1	QTY:3
V752500		PCB DEFL CVM3600	PCB1
K774315		T MN50 HOR SHIFT	L15
V774361		CH 5 MH	L10
V775163		CHOKE AX 0.4 2.5UH	L13 ,L16
V7754291	!	T EHT CVM3000	T5 (EHT Transformer)
V775440		T DRIVER DEFL CVM 3670 PS	L12
V776919	*	T CVM3000 EHT	A1+A2 (Tripler+Bleeder)

PARTS LIST
EHT & DEFLECTION (for CVM 3670)
Order number of a complete module : V5635097

Order number		Description	Item
V101253		R MF H 27K J 0W5 E4	R12 ,R262
V101254		R MF H 33K J 0W5 E4	R13 ,R14
V1012998	!	R CFFH E1 K 0W5	R16 ,R27 ,R31
V101500		R MF H 1E F 0W4 E3	R138,R172,R177,R99
V101501		R MF H 1E2 F 0W4 E3	R125,R126
V101512		R MF H 10E F 0W4 E3	R119,R132,R139,R169,R183,R186, R193,R196,R199,R205,R208,R220, R224,R232,R237,R248,R4 ,R40 , R56 ,R63 ,R67 ,R68 ,R7 ,R76 , R8
V101513		R MF H 12E F 0W4 E3	R124
V101516		R MF H 22E F 0W4 E3	R123
V101524		R MF H100E F 0W4 E3	R102,R122,R133,R143,R154,R155, R180,R181,R182,R184,R185,R189, R191,R201,R216,R221,R234,R235, R246,R249,R255,R28 ,R32 ,R64 , R86 ,R95
V101528		R MF H220E F 0W4 E3	R18
V101530		R MF H330E F 0W4 E3	R229
V101532		R MF H470E F 0W4 E3	R130
V101533		R MF H560E F 0W4 E3	R148,R178,R78
V101534		R MF H680E F 0W4 E3	R100,R72 ,R74
V101535		R MF H820E F 0W4 E3	R107,R251
V101536		R MF H 1K F 0W4 E3	R131,R157,R188,R210,R30 ,R39 , R41 ,R45 ,R47 ,R51 ,R52 ,R84 , R91
V101537		R MF H 1K2 F 0W4 E3	R161,R24 ,R25 ,R38 ,R87
V101538		R MF H 1K5 F 0W4 E3	R59 ,R69
V101540		R MF H 2K2 F 0W4 E3	R103,R111,R142,R190,R219,R82 , R88 ,R9
V101541		R MF H 2K7 F 0W4 E3	R168,R194,R98
V101542		R MF H 3K3 F 0W4 E3	R101,R151
V101543		R MF H 3K9 F 0W4 E3	R197
V101544		R MF H 4K7 F 0W4 E3	R106,R115,R117,R141,R144,R149,

Order Number		Description	Item
			R212,R231,R238,R5 ,R61 ,R73 , R79 ,R80 ,R92 ,R97
V101546		R MF H 6K8 F 0W4 E3	R110,R170,R192,R202,R57 ,R81
V101547		R MF H 8K2 F 0W4 E3	R10 ,R105,R214,R226,R242,R70
V101548		R MF H 10K F 0W4 E3	R112,R127,R166,R171,R19 ,R206, R207,R217,R227,R228,R239,R36 , R37 ,R43 ,R44 ,R55 ,R60 ,R71 , R75 ,R77 ,R93
V101549		R MF H 12K F 0W4 E3	R116,R137,R156,R175
V101550		R MF H 15K F 0W4 E3	R109,R167,R22 ,R23 ,R263,R62 , R90
V101551		R MF H 18K F 0W4 E3	R121,R179
V101552		R MF H 22K F 0W4 E3	R174,R200,R89
V101553		R MF H 27K F 0W4 E3	R213,R225,R241
V101555		R MF H 39K F 0W4 E3	R58
V101556		R MF H 47K F 0W4 E3	R120,R198,R204,R209,R211,R245, R53 ,R65 ,R66
V101557		R MF H 56K F 0W4 E3	R215,R233
V101558		R MF H 68K F 0W4 E3	R118,R33
V101559		R MF H 82K F 0W4 E3	R104
V101560		R MF H100K F 0W4 E3	R108,R128,R223,R256,R26 ,R34 , R35 ,R42 ,R94
V101561		R MF H120K F 0W4 E3	R134,R20 ,R85
V101563		R MF H180K F 0W4 E3	R29
V101566		R MF H330K F 0W4 E3	R21
V101567		R MF H390K F 0W4 E3	R114
V102032		R CC H470E K 0W5	R11
V102330		R MF H330E J 3W E10	R195
V102336		R MF H 1K J 3W E10	R230
V1026006		R MF H 1K F 0W6 E4	R165
V1026046		R MF H 1K1 F 0W6 E4	R145
V1026066		R MF H 1K15F 0W6 E4	R261
V1026087		R MF H 12K1 F 0W6 E4	R129
V1026336		R MF H 2K21F 0W6 E4	R150,R173
V1026466		R MF H 3K01F 0W6 E4	R113,R164
V1026656		R MF H 4K75F 0W6 E4	R260
V1026827		R MF H 71K5 F 0W6 E4	R46
V1026925		R MF H909E F 0W6 E4	R135
V102921		R MF H 56E J 2W E7	R50
V103598		R WW R E47K 2W E4	R240,R247
C103632		R WW H 47E K 4W	R146
V104215		R WW V 8E2 K 7W	R1
V104250		R WW V 6K8 K 7W	R244
V104342		R WW V 1K5 K 9W	R236,R243
K1046701		R HV H 4M7 J 1W 10000	R2 ,R6
V104690		R HV H 33M J 0W5 3500	R176
V106518		R TWW V100E K 3W D20NC	P4
V106732	*	R TCE H 50K K 0W5 S10TS	P3
V107005		R TCE H500E M 0W5 S7 TS	P1
V107010	*	R TCE H 20K M 0W5 S7 TS	P2
V1113885		C EL RA 47M M100E2 105	C64
V1114004		C EL RA 47M M250E3 105	C1
V111471		C EL RA1000M M 25E3 105	C38
K1114777		C EL RA 100M M 25E2 105	C16 ,C26 ,C46 ,C48 ,C86 ,C92 , C97
V111478		C EL RA 220M M 25E2 105	C41 ,C50
V111497		C EL RA 100M M 63E2 105	C35 ,C5
V1115119		C EL RA 47M M 25E2 105	C11 ,C63
V1115319		C EL RA 10M M 50E2 105	C105,C108,C111,C119,C120,C122, C124,C127,C128,C22 ,C32 ,C54 , C59 ,C70 ,C80
V1115469		C EL RA 1M M 50E2 105	C77
V1115509		C EL RA 4M7M 63E2 105	C52
V111679		C EL BRA 10M M 25E2 85	C110,C98
V111681		C EL BRA 22M M 25E2 85	C101,C91
C111760		C PPMERA 1N J202E9 HV	C118,C88
V1120902		C CE DI 100P K202E3 HV	C100
V1127510		C X7R MU 10N K 50E2 125	C15
V1127741		C Z5U MU 100N Z100E2 85	C102,C104,C12 ,C121,C123,C129,

Order Number	Description	Item
V1127741	C Z5U MU 100N Z100E2 85	C21 ,C3 ,C30 ,C31 ,C33 ,C34 , C39 ,C42 ,C47 ,C51 ,C58 ,C60 , C65 ,C7 ,C75 ,C78 ,C82 ,C9 , C90 ,C93 ,C94
V112817	C CE DI 220P M400E2	C96
V112833	C CE DI 4N7S400E3	C132,C14
C112835	C CE DI 6N8S400E3	C130
V114080	C POMERA 10N K 63E2 100	C103,C18 ,C55 ,C56 ,C73 ,C81
V114081	C POMERA 15N K 63E2 100	C99
V114082	C POMERA 22N K 63E2 100	C19 ,C44 ,C66 ,C72
V114085	C POMERA 56N K 63E2 100	C69
V114088	C POMERA 100N K 63E2 100	C29 ,C45 ,C6 ,C67 ,C71 ,C87
V114090	C POMERA 220N K 63E2 100	C53 ,C8 ,C84 ,C85
V114091	C POMERA 330N K 63E2 100	C106,C107
V114092	C POMERA 470N K 63E2 100	C17 ,C57 ,C61 ,C74
V114094	C POMERA 680N M 50E2 100	C36 ,C76
V114096	C POMERA 1M K 50E2 100	C4
V114480	C PO RA 1N M100E2 100	C20
V1144801	C PO RA 1N J100E2 100	C27
V114486	C PO RA 6N8M100E2 100	C109
C114636	C PPMERA 47N M162E11 HV	C23
C1147009	C CE DI 4N7M400E5 Y	C95
V115006	C PPMERA 12N J102E9 HV	C116,C117
V115008	C PPMERA 1N5J202E9 HV	C25
V1150125	C PPMERA 5N6J162E9 HV	C24
V1150221	C PPMERA 18N J400E6	C89
V1150642	C PPMERA 100N K250E6	C125,C13 ,C43
V1150682	C PPMERA 220N K250E6	C40 ,C49
V1150722	C PPMERA 470N K250E9	C112
V1150732	C PPMERA 560N K250E9	C113
V1150761	C PPMERA 1M M160E9	C115,C2
V115167	C PP RA 4N7J 63E2 85	C68
V115181	C PC RA 220P K160E2 100	C126,C28
V116305	C PP RA 10N H 63E2 85	C10
V116315	C PP RA 4N7 H160E2 85	C62
V131411	Q BC549C N SS TO92	Q16 ,Q17 ,Q20 ,Q21 ,Q24 ,Q28 , Q38 ,Q39 ,Q41 ,Q43 ,Q44 ,Q9
V1314182	Q BC559C P SS TO92	Q19 ,Q25 ,Q31 ,Q35 ,Q36 ,Q4 , Q8
V131426	Q BC337 N SS TO92	Q12 ,Q15 ,Q2 ,Q22 ,Q34 ,Q5 , Q7
V131471	Q BF458 N P TO126	Q32 ,Q33
V1315046	D Y BAT86 050200 DO34	D22 ,D27 ,D52
V1316211	D S 1N4148 075150 DO35	D10 ,D11 ,D24 ,D29 ,D37 ,D41 , D45 ,D5 ,D7
V131627	D S BAV21 200250 DO35	D14 ,D15 ,D21 ,D26 ,D30 ,D33 , D36 ,D38 ,D39 ,D40 ,D42 ,D43 , D55 ,D56 ,D9
V131662	D LED D3 T RD	D19 ,D20
V131716	D ZEN 5V1 0W5 C DO35	D17 ,D44 ,D48 ,D57
V1317205	D REF 6V2 0.005% DO34	D16
V1317292	D ZEN 4V7 0W5 B DO35	D34
V131744	D ZEN 5V6 0W5 C DO35	D18
V131758	D ZEN 15V 0W5 C DO35	D25
V131762	D ZEN 16V 0W5 C DO35	D2
V131779	D ZEN 15V 1W3 C DO41	D35
V131781	D ZEN 27V 1W3 C DO41	D32
V1319035	D BYD33M FSR SOD81	D28 ,D31 ,D46 ,D58 ,D59 ,D6 , D60 ,D8
V131917	D R BY228 15205A SOD64	D49 ,D50
V131930	D Y 0301A0 DO41	D61 ,D62
V1319495	D BYV29-300 UFSR TO220	D12
V1319531	D BYT12PI-800 UFSR SOT186	D3 ,D51
V131954	D BYV27-200 R SOD57	D1 ,D4 ,D63 ,D64
V131956	D MUR10120E UF R TO220	D13 ,D53 ,D54
V131965	D Y 04510A TO220	D23
V132194	U 072 TL DIP8 P	U18 ,U2 ,U9
V132501	Q BC327-25 P SS TO92	Q11 ,Q18 ,Q26 ,Q27 ,Q3 ,Q30 , Q6

Order Number		Description	Item
V132517		Q BUX84 N P TO220	Q42
V1325721		Q BU2508D N P SOT93	Q37 ,Q40
V132599		Q BU2525A N P SOT93	Q14
V132610		Q IRF740 FN P TO220	Q1
V132611		Q IRF540 FN P TO220	Q13
V132618		Q BSS101 FN SS TO92	Q29
V132623		Q BSV81 FN SS TO72	Q23
V132707		U 3080 CA DIP8 P	U19 ,U20 ,U21
V132761		U 8432 TDA DIP24 P	U8
V1330145		Q ACC MNTG PAD TO18	Q.23
R133074		Q ACC ISO SIL600 W 30	0110,0210
V133089		Q ACC HTSNK TO220	N1 ,N3
B133308		U 8351 TDA SIP9 P	U7
C134002		U 7812 TO220 P	U12 ,U5
V134018		U 431C TL TO92 P	U13 ,U15 ,U22 ,U6
B134062		U 2941A MIC TO220/5P	U23
V1341091		U 555 TLC DIP8 P	U10 ,U4
V134144		U 064C TL DIP14 P	U17
V137259		U 8444 TDA DIP16 P	U16
V1372961		U 494 TL DIP16 I	U1
V137719		U 2595 TDA DIP18 P	U11
V302132		CORE TUBE 6 / 3 X10	L3
K306407		CL LIN 4042/08A TV32	L14
V306434		COIL E/W INJECT 4043/60	L6
V306449		COIL BRIDGE 4043/68	L7
V306450		T DRIVER CU10 2.0MH	L4
V306729		T SMP AT3010/110LL	L1
V3110631		D ACC HLDR D3 P1 T H 4.8	D...
C313220		R ACC HLDR H10 WW V	N2 ,N4 ,N5 ,N6
V3132862		J MD1 C MBT P 2 E1SN 6.7	BR1
C313590		J EUR2C MBS P32 E2C2S 1.6	J801,J802
C313613		J LV MBT P 6 R4M8 NP	J1
K3153155		J RVT MBT D 2.3L12.7	QTY:10
V3481024		WU JUMP 0.6 7.62	D66 ,W5 ,W7
V3481034		WU JUMP 0.6 10.16	W6
V3481044		WU JUMP 0.6 12.7	L..3
V3620226		SCR D84 M 3 X 8 I	QTY:2
V3621212		SCR D7985 M 3 X 6 SCZ	QTY:10
V362199		SCR D7985 M 3 X 8 SCZ	A.1 ,QTY:6 ,QTY:2
V366102		NUT D934 M 3 S Z	QTY:2
V3685408		NUT I KFS2 M 3	A..1
V601753		HEATSINK DEFL CVM3600	QTY:1
V601774		HEATSINK FLYB CVM3600	QTY:2
V602950		J TAB1 BT D	TP1 ,TP10,TP11,TP12,TP13,TP2 , TP3 ,TP4 ,TP5 ,TP6 ,TP7 ,TP8 , TP9
V603569		Q ACC SPG 3X 3.1	QTY:2
V6035692		Q ACC SPG 2X 3.1	QTY:3
V752500		PCB DEFL CVM3600	PCB1
K774315		T MN50 HOR SHIFT	L15
V774361		CH 5 MH	L10
V775163		CHOKE AX 0.4 2.5UH	L13 ,L16
V7754291	!	T EHT CVM3000	T5 (EHT Transformer)
V775440		T DRIVER DEFL CVM 3670 PS	L12
V776919	*	T CVM3000 EHT	A1+A2 (Tripler + Bleeder)

PARTS LIST
ANALOG INPUT & DECODER
Order number of a complete module : V5635003

Order number	Description	Item
V101500	R MF H 1E F 0W4 E3	R387,R390
V101508	R MF H 4E7 F 0W4 E3	R426,R427
V101512	R MF H 10E F 0W4 E3	C84 ,R176,R206,R313,R315,R345, R351,R382,R383,R399,R425,R43 , R443,R76 ,R90
V101516	R MF H 22E F 0W4 E3	R170,R227,R298,R365,R48 ,R99
V101520	R MF H 47E F 0W4 E3	R18 ,R446
V1015231	R MF H 75E F 0W4 E3	R159,R225,R292,R354,R47 ,R97
V101524	R MF H100E F 0W4 E3	R ,R104,R105,R108,R112,R114, R115,R117,R122,R129,R131,R132, R134,R136,R140,R141,R143,R144, R146,R147,R15 ,R150,R151,R152, R153,R154,R16 ,R161,R165,R166, R17 ,R177,R181,R182,R184,R185, R186,R188,R189,R199,R202,R210, R213,R214,R219,R220,R221,R222, R223,R224,R23 ,R233,R235,R236, R238,R239,R24 ,R245,R249,R251, R254,R265,R268,R27 ,R272,R280, R281,R291,R302,R308,R309,R311, R317,R318,R330,R343,R362,R363, R380,R393,R41 ,R430,R448,R54 , R55 ,R56 ,R63 ,R68 ,R7 ,R74 , R81 ,R88 ,R98
V101525	R MF H120E F 0W4 E3	R205,R274
V101526	R MF H150E F 0W4 E3	R118,R137,R203,R231,R267,R332, R412,R423,R456,R458,R65 ,R66 , R9
V101527	R MF H180E F 0W4 E3	R31 ,R32 ,R33 ,R339
V101528	R MF H220E F 0W4 E3	R1 ,R101,R123,R126,R148,R156, R172,R229,R300,R367,R374,R4 , R403,R424,R50 ,R57 ,R60 ,R82
V101529	R MF H270E F 0W4 E3	R333,R368,R388,R422
V101530	R MF H330E F 0W4 E3	R384,R407,R67
V101531	R MF H390E F 0W4 E3	R160
V101532	R MF H470E F 0W4 E3	R102,R103,R116,R133,R316,R429
V101533	R MF H560E F 0W4 E3	R279,R397,R398,R406,R410
V101534	R MF H680E F 0W4 E3	R107,R162,R244,R253,R275,R405, R452,R69 ,R84
V101535	R MF H820E F 0W4 E3	R278,R284
V101536	R MF H 1K F 0W4 E3	R106,R121,R125,R128,R135,R138, R142,R157,R158,R163,R164,R173, R195,R198,R20 ,R246,R257,R258, R261,R264,R269,R273,R282,R287, R293,R294,R295,R3 ,R306,R310, R312,R326,R329,R352,R359,R40 , R419,R42 ,R444,R45 ,R460,R463, R51 ,R52 ,R59 ,R6 ,R62 ,R70 , R73 ,R75 ,R78 ,R85 ,R87 ,R89 , R92 ,R95
V101537	R MF H 1K2 F 0W4 E3	R19 ,R276,R417,R420,R435,R71
V101538	R MF H 1K5 F 0W4 E3	R241,R242,R243,R255,R283,R286, R296,R38 ,R391,R413,R416,R418, R421,R428,R447,R457,R459,R94
V101539	R MF H 1K8 F 0W4 E3	R323,R358
V101540	R MF H 2K2 F 0W4 E3	R111,R119,R120,R149,R155,R167, R174,R175,R178,R179,R183,R201, R204,R216,R217,R226,R232,R234, R237,R252,R277,R335,R341,R342, R344,R348,R360,R394,R400,R440, R454,R464,R53 ,R80 ,R83 ,R96
V101541	R MF H 2K7 F 0W4 E3	R285,R301,R319
V101542	R MF H 3K3 F 0W4 E3	R376,R392,R395,R408,R414

Order Number	Description	Item
V101543	R MF H 3K9 F 0W4 E3	R130,R139,R192,R230,R247,R266, R331,R433,R437,R64 ,R8
V101544	R MF H 4K7 F 0W4 E3	R109,R113,R14 ,R168,R207,R211, R212,R271,R289,R290,R304,R305, R350,R379,R39 ,R409,R415,R44 , R455,R461,R462,R72 ,R77 ,R86 , R91
V101545	R MF H 5K6 F 0W4 E3	R36 ,R364,R402
V101546	R MF H 6K8 F 0W4 E3	R11
V101547	R MF H 8K2 F 0W4 E3	R314,R378
V101548	R MF H 10K F 0W4 E3	D96 ,R110,R13 ,R187,R190,R191, R200,R208,R209,R21 ,R218,R240, R248,R250,R288,R297,R303,R307, R320,R321,R334,R337,R346,R349, R355,R361,R371,R373,R381,R389, R401,R411,R432,R436,R441,R442
V101549	R MF H 12K F 0W4 E3	R10 ,R270
V101550	R MF H 15K F 0W4 E3	R127,R197,R263,R328,R5 ,R61
V101551	R MF H 18K F 0W4 E3	R256,R353,R370
V101552	R MF H 22K F 0W4 E3	R145,R169,R22 ,R25 ,R29 ,R449, R450,R451,R453
V101553	R MF H 27K F 0W4 E3	R377
V101555	R MF H 39K F 0W4 E3	R100,R124,R171,R193,R2 ,R228, R260,R299,R325,R347,R366,R49 , R58
V101556	R MF H 47K F 0W4 E3	R180,R28 ,R30 ,R34 ,R372
V101557	R MF H 56K F 0W4 E3	R37 ,R46 ,R79 ,R93
V101558	R MF H 68K F 0W4 E3	R35
V101560	R MF H100K F 0W4 E3	R26 ,R369,R438
V101565	R MF H270K F 0W4 E3	R12
V1015675	R MF H499E F 0W4 E3	R194,R196,R259,R262,R324,R327
V101569	R MF H560K F 0W4 E3	R404
V101570	R MF H680K F 0W4 E3	R445
V1026844	R MF H 75E F 0W6 E4	R336,R375,R385,R386
V107003	R TCE H100E K 0W5 S 7TS	P21 ,P22
V107005	R TCE H500E K 0W5 S 7TS	P5 ,P8
V107006	R TCE H 1K K 0W5 S 7TS	P4
V107008	R TCE H 5K K 0W5 S 7TS	P17
V107023	R TCE V100E K 0W5 S 7SS	P15
V107025	R TCE V500E K 0W5 S 7SS	P10 ,P11 ,P16 ,P20
V107026	R TCE V 1K K 0W5 S 7SS	P9
V107027	R TCE V 2K K 0W5 S 7SS	P12 ,P13 ,P14
V107028	R TCE V 5K K 0W5 S 7SS	P1 ,P6 ,P7
V107029	R TCE V 10K K 0W5 S 7SS	P3
V107528	R MCE V 1K K 0W5 M10SS	P23
V107529	R MCE V 10K K 0W5 M10SS	P18 ,P19 ,P2
V1114709	C EL RA1000M M 16E2 105	C227,C91
K1114777	C EL RA 100M M 25E2 105	C104,C106,C154,C2 ,C220,C221, C27 ,C28 ,C61
V1114959	C EL RA 22M M 63E2 105	C198
V1115109	C EL RA 22M M 25E2 105	C174,C191,C23
V1115119	C EL RA 47M M 25E2 105	C118,C140,C153,C171,C236,C238, C243,C25 ,C5 ,C55 ,C75 ,C82 , C90 ,C94 ,C98
V1115319	C EL RA 10M M 50E2 105	C157,C245,C4 ,C50
V1115469	C EL RA 1M M 50E2 105	C33 ,C38
V111679	C EL BRA 10M M 25E2 85	C100,C107,C128,C137,C15 ,C166, C177,C185,C186,C34 ,C46 ,C64 , C77 ,C9 ,C96
V112230	C NP0 MI 10P G100E2	C130,C133,C215,C246,C72
V112232	C NP0 MI 15P G100E2	C247,C248
V112233	C NP0 MI 18P G100E2	C35 ,C6 ,C65
V112234	C NP0 MI 22P G100E2	C116,C242
V112235	C NP0 MI 27P G100E2	C202,C216,C88
V112236	C NP0 MI 33P G100E2	C207
V112240	C NP0 MI 68P G100E2	C176,C187
V112241	C NP0 MI 82P G100E2	C73
V112283	C N150MI 120P G100E2	C214
V112359	C N750MI 56P G100E2	C125,C126

Order Number	Description	Item
C112363	C N750MI 120P G100E2	C165,C182
V112364	C N750MI 150P G100E2	C66 ,C87
V112366	C N750MI 220P G100E2	C208
C112743	C CE MI 2N2K100E2	C115,C136,C14 ,C195,C52 ,C76
V1127830	C X7R MU 100N K 50E2 125	C ,C103,C105,C109,C119,C121, C122,C127,C131,C132,C134,C135, C143,C144,C146,C148,C151,C159, C160,C169,C170,C172,C173,C181, C188,C189,C19 ,C190,C20 ,C200, C201,C206,C21 ,C210,C211,C223, C224,C232,C234,C235,C237,C239, C24 ,C240,C241,C244,C40 ,C57 , C58 ,C62 ,C63 ,C69 ,C7 ,C70 , C74 ,C8 ,C80 ,C86 ,C89 ,C95 , C99
C112825	C CE DI 1N S400E2	C249,C250,C251,C252,C253,C254
V114080	C POMERA 10N K 63E2 85	C113,C192,C196,C228,C229,C231, C233,C92
V114082	C POMERA 22N K 63E2 85	C10 ,C108,C138,C178,C193,C197, C29 ,C36 ,C37 ,C43 ,C47 ,C78
V114084	C POMERA 47N K 63E2 85	C217,C230,C44 ,C45 ,C59 ,C60
V114088	C POMERA 100N K 63E2 85	C101,C102,C111,C112,C114,C120, C123,C139,C141,C142,C147,C152, C155,C156,C16 ,C163,C179,C184, C199,C203,C204,C212,C225,C226, C48 ,C49 ,C51 ,C53 ,C54 ,C79 , C93
V114090	C POMERA 220N K 63E2 85	C12 ,C145,C150,C158,C161,C168, C180,C183,C205,C31 ,C41 ,C83
V114091	C POMERA 330N K 63E2 85	C17 ,C18 ,C218,C22
V114480	C PO RA 1N M100E2 85	C164,C175
V114481	C PO RA 1N5M100E2 85	C1 ,C110,C117,C149,C26 ,C56
V1151821	C PC RA 470P K160E2 100	C209
V115184	C PC RA 680P K160E2 100	C71 ,C81
V117024	C TH 4 -40P 100	C194,C219
V117040	C TV 1.8-10P 300	C124
V117041	C TV 1 - 4P 300	C213
V131411	Q BC549C N SS TO92	Q2 ,Q29 ,Q30 ,Q44 ,Q73 ,Q74 , Q75 ,Q78 ,Q84 ,Q87 ,Q98 ,Q99
V1314182	Q BC559C P SS TO92	Q66 ,Q68 ,Q76 ,Q97
V131426	Q BC337 N SS TO92	Q85
V131464	Q BF199 N SS TO92	Q63 ,Q64
V1314651	Q BF245B FN SS TO92	Q65 ,Q67
V131494	Q 2N3904 N SS TO92	Q1 ,Q103,Q11 ,Q12 ,Q13 ,Q15 , Q17 ,Q18 ,Q19 ,Q20 ,Q22 ,Q23 , Q25 ,Q26 ,Q27 ,Q3 ,Q35 ,Q36 , Q37 ,Q38 ,Q39 ,Q4 ,Q40 ,Q41 , Q42 ,Q43 ,Q49 ,Q5 ,Q52 ,Q53 , Q54 ,Q55 ,Q56 ,Q57 ,Q59 ,Q6 , Q62 ,Q69 ,Q7 ,Q70 ,Q71 ,Q72 , Q79 ,Q8 ,Q80 ,Q81 ,Q82 ,Q88 , Q89 ,Q9 ,Q90 ,Q91 ,Q92 ,Q93
V131496	Q 2N3906 P SS TO92	Q10 ,Q100,Q101,Q102,Q14 ,Q16 , Q21 ,Q24 ,Q28 ,Q32 ,Q33 ,Q34 , Q45 ,Q46 ,Q47 ,Q48 ,Q50 ,Q58 , Q60 ,Q61 ,Q77 ,Q86
V1315046	D Y BAT86 050200 DO34	D65 ,D66 ,D69 ,D70
V131643	D S 1N4151 050150 DO35	D10 ,D11 ,D12 ,D13 ,D14 ,D15 , D16 ,D17 ,D18 ,D19 ,D20 ,D21 , D22 ,D23 ,D24 ,D28 ,D29 ,D30 , D31 ,D32 ,D35 ,D36 ,D37 ,D38 , D39 ,D4 ,D40 ,D41 ,D42 ,D43 , D44 ,D47 ,D48 ,D5 ,D51 ,D52 , D54 ,D55 ,D56 ,D57 ,D6 ,D60 , D61 ,D62 ,D63 ,D67 ,D68 ,D7 , D74 ,D75 ,D8 ,D88 ,D89 ,D9 , D91 ,D95
C131646	D R 1N4007 10201A DO41	D3 ,D49 ,D84 ,D85
V131716	D ZEN 5V1 0W5 C DO35	D77 ,D83

Order Number	Description	Item
C131720	D ZEN 6V2 0W5 C DO35	D94
K131733	D STB 2V 0W33 DO35	D78 ,D80 ,D92
C131735	D ZEN 10V 0W5 C DO35	D82
V131751	D ZEN 9V1 0W5 C DO35	D27
V131754	D ZEN 3V3 0W5 C DO35	D76 ,D79 ,D90
V131756	D ZEN 7V5 0W5 C DO35	D81
V131757	D ZEN 3V9 0W5 C DO35	D50
V131779	D ZEN 15V 1W3 C DO41	D1 ,D2 ,D25 ,D26 ,D33 ,D34 , D45 ,D46 ,D58 ,D59 ,D72 ,D73
V132626	Q J310 FN SS TO92	Q31 ,Q95
V132828	U 4650 TDA DIP28 P	U33
K1328291	U 4661 TDA DIP16 P	U32
V132830	U 4670 TDA DIP18 P	U14
V133005	Q ACC ISO SIL 18X 13	QTY:1
V1330495	Q ACC ISO BUSH TO220	QTY:1
C134002	U 7812 TO220 P	U1 ,U34
V134005	U 339 LM DIP14 P	U24 ,U25 ,U29
C134016	U 7912 TO220 P	U35
V134018	U 431C TL TO92 P	U2
C134019	U 7808 TO220 P	U15
K134125	U 34084 DIP14 P	U31
V134137	U 1201 LM DIP16 P	U27
V1372951	U 8574A PCF DIP16 P	U18 ,U22
V137310	U 1496 LM DIP14 P	U23
V1373916	U 74HC4053 DIP16 P	U3 ,U30 ,U4 ,U6 ,U7
V137406	U 7406 DIP14 P	U17
V137432	U 74LS26 DIP14 P	U21
V137508	U 7407 DIP14 P	U20
C137700	U 4053B DIP16 P	U10 ,U11 ,U12 ,U13 ,U16 ,U19 , U28 ,U8 ,U9
V137725	U 3507 TDA DIP28 P	U5
V137778	U 6415C TEA DIP20 P	U26
V3060035	CH RA ES 2.91UH S7 T	L16
V306007	CH RA ES 10 UH S7 T	L2 ,L5 ,L8
V3060161	CH RA ES 82 UH S7 T	L10 ,L6 ,L9
K3060242	CH RA ES 10 UH S7 T	L19
V3060492	CH RA NS 100 UH 0A91	L14 ,L15 ,L18
V3061264	CH AX NS 3.3 UH	L13
V3061362	CH AX NS 22 UH	L1 ,L11
C3061442	CH AX NS 100 UH	L20
C3061562	CH AX NS 1 MH	L12
V306811	X 7.159090 MHZ HC43 20	Y2
C306816	X 8.867238 MHZ HC43 20	Y1
V313211	J BNC FCT P 1 50E	J11 ,J12 ,J14 ,J15 ,J16 ,J18 , J19 ,J3 ,J4 ,J7 ,J8 ,J9
C313286	J MD1 C MBT P 3 E1SN 6.7	J600,J603,J604,J606,J607,J609, S7
V3132862	J MD1 C MBT P 2 E1SN 6.7	J608,J610
C3133921	J MD SHUNT E1SN PULL OUT	S'7 ,S600,S603,S604,S606,S607, S609,S610,S612,S615
C313590	J EUR2C MBS P32 E2C2S 1.6	J601,J602
K313851	J CIRC FBS P 4 P	J605
V324151	SW SLD JSA 1C BS	S1 ,S2 ,S3 ,S4 ,S5 ,S6
K34217004	WU UL1007 AWG24 ST BK 40	W1
K34217204	WU UL1007 AWG24 ST RD 40	W2
V3481074	WU JUMP 0.6 20.32	QTY:12
V362199	SCR Z7985 M 3 X 8 STZN	QTY:6
V366102	NUT D934 M 3 STZN	QTY:3
V601669	PLATE DEC RGB CVM3000	QTY:1
V601852	SPR RVT L 4.8 D 5 M3 M	QTY:1
V602950	J TAB1 BT D	TP12,TP14,TP16,TP17,TP2 ,TP20, TP21,TP23,TP24,TP25,TP26,TP29, TP30,TP41,TP45,TP47,TP48,TP5 , TP67,TP68,TP69,TP72,TP76,TP78, TP8 ,TP80,TP82,TP84,TP85
V7216849	J BNC WASHER FR WHI	QTY:24
V752276	PCB VID & RGB CVM3000	PCB1
V752516	PCB BNC EMC CVM3000	PCB2
K800762	SLDRLUG SCR 1TAG D9.8 L24	QTY:12

PARTS LIST
CRT SOCKET
Order number of a complete modules : V5635020/22/23/24/25

Component differences between modules : Refer to list

Order number	Description	Item
V101284	R MF H 10M J 0W5 E4	R32
V101524	R MF H100E F 0W4 E3	R35 ,R36
V101530	R MF H330E F 0W4 E3	R27 ,R28 ,R29
V101532	R MF H470E F 0W4 E3	R31 on V5635022
V101534	R MF H680E F 0W4 E3	R37 ,R38
V101535	R MF H820E F 0W4 E3	R1
V101536	R MF H 1K F 0W4 E3	R11 ,R12 ,R9
V101536	R MF H 1K F 0W4 E3	R18 & R20 & R23 on V5635024
V101537	R MF H 1K2 F 0W4 E3	R20 & R23 on V5635023
V1015371	R MF H 1K1 F 0W4 E3	R18 on V5635023
V101538	R MF H 1K5 F 0W4 E3	R10 ,R19 ,R21 ,R22
V101538	R MF H 1K5 F 0W4 E3	R18 & R20 & R23 on V5635022/25
V101539	R MF H 1K8 F 0W4 E3	R24 ,R25 ,R26
V101539	R MF H 1K8 F 0W4 E3	R18 & R20 & R23 on V5635020/21
V101550	R MF H 15K F 0W4 E3	R30
V101559	R MF H 82K F 0W4 E3	R2
V101560	R MF H100K F 0W4 E3	R39
V101570	R MF H680K F 0W4 E3	R34
V102036	R CC H 1K K 0W5	R14 ,R17 ,R8
V102041	R CC H 2K7 K 0W5	R33
V102148	R CC H 10K K 1W	R7
V102916	R MF H 22E J 2W E7	R6
K103158	R MO H 68K J 1W	R13 ,R15 ,R16
V107620	R THV V 40M L 2W6 11000	P1
V1114123	C EL RA 4M7M250E2 105	C30
V1114169	C EL RA 10M M350E2 105	C7
V1114689	C EL RA 470M M 16E2 105	C1
K1114777	C EL RA 100M M 25E2 105	C2
V1114799	C EL RA 470M M 25E2 105	C19
V1117581	C CE DI 10N M102E3 HV	C9
V112235	C NP0 MI 27P G100E2	C15
V1127830	C X7R MU 100N K 50E2 125	C10 ,C16 ,C24 ,C25 ,C26 ,C3
V1127830	C X7R MU 100N K 50E2 125	C32 on V5635022/23/24
C112825	C CE DI 1N S400E2	C33 ,C34 ,C35 ,C36
V114042	C POMERA 100N K250E6 85	C31
V114046	C POMERA 220N K250E6 85	C4 ,C5 ,C6
V114480	C PO RA 1N M100E2 85	C21 ,C22 ,C23
V117017	C TH 1.4-10P 250	C11 ,C12 ,C13
V1314182	Q BC559C P SS TO92	Q1
V1316211	D S 1N4148 075150 DO35	D2 ,D8
V131627	D S BAV21 200250 DO35	D4 ,D5 ,D6
C131646	D R 1N4007 10201A DO41	D9
V131725	D ZEN 24V 2W5 C SOD81	D15
C131735	D ZEN 10V 0W5 C DO35	D12 on V5635022/24
V131742	D ZEN 6V8 0W5 C DO35	D14
V131743	D ZEN 8V2 0W5 C DO35	D7
V131744	D ZEN 5V6 0W5 C DO35	D11
V1319035	D R BYD33M 1021A3 SOD81	D10 ,D13 ,D16
V132516	Q BF422 N SS TO92	Q2 ,Q3
K132869	U 6101 TDA ZIP9 P	U1 ,U2 ,U3
V1330921	HTSNK STD 8.8K/W	N1 ,N2 ,N3
C134002	U 7812 TO220 P	U4
V3060492	CH RA NS 100 UH 0A91	L4
K306180	CH AX BEADS ON WIRE	L1 ,L3
V311043	J CRT FBT B10-277 SKT	J1
K3135866	J MT MBT P 7 R1 FL BL	J2
V3137820	J CT MBT P10 M2SN	J3
V315302	J PIN TESTEYE	0200
V315319	J TAB1 MBT H 6.3S0.8	J4
K344050	CD HV20K 20-SO POW F/M100	W6
V348000	CBLA TIE B L 98 W2.5	0030

Order Number	Description	Item
V3481014	WU JUMP 0.6 5.08	W4
V3481024	WU JUMP 0.6 7.62	R40
V3481034	WU JUMP 0.6 10.16	D12
V3481054	WU JUMP 0.6 15.24	W1
V349291	WU HV 20K AWG20 SO 200	W7
V3621212	SCR Z7985 M 3 X 6 STZN	0010,0011
V366102	NUT D934 M 3 STZN	0012
V3685408	I NUT ST M3 PCB SS	0020
V5635020A	UN CRT SOCK CVM3037 IH	
V752278	PCB CRT SOCKET CVM30**	PCB1

PARTS LIST
CRT SOCKET FOR CVM 3637 PS
Order number of a complete modules : V5635021

Order number	Description	Item
V101284	R MF H 10M J 0W5 E4	R32
V101524	R MF H100E F 0W4 E3	R35 ,R36
V101530	R MF H330E F 0W4 E3	R27 ,R28 ,R29
V101534	R MF H680E F 0W4 E3	R37 ,R38
V101535	R MF H820E F 0W4 E3	R1
V101536	R MF H 1K F 0W4 E3	R11 ,R12 ,R9
V101538	R MF H 1K5 F 0W4 E3	R10 ,R19 ,R21 ,R22
V101539	R MF H 1K8 F 0W4 E3	R20 ,R23 ,R24 ,R25 ,R26
V101550	R MF H 15K F 0W4 E3	R30
V101559	R MF H 82K F 0W4 E3	R2
V101560	R MF H100K F 0W4 E3	R39
V101570	R MF H680K F 0W4 E3	R34
V102036	R CC H 1K K 0W5	R14 ,R17 ,R8
V102041	R CC H 2K7 K 0W5	R33
V102148	R CC H 10K K 1W	R7
V1026206	R MF H 1K62F 0W6 E4	R18
V102916	R MF H 22E J 2W E7	R6
K103158	R MO H 68K J 1W	R13 ,R15 ,R16
V107622	R THV V 40M L 2W6 10000	P1
V1114123	C EL RA 4M7M250E2 105	C30
V1114169	C EL RA 10M M350E2 105	C7
V1114689	C EL RA 470M M 16E2 105	C1
K1114777	C EL RA 100M M 25E2 105	C2
V1114799	C EL RA 470M M 25E2 105	C19
V1117581	C CE DI 10N M102E3 HV	C9
V112235	C NP0 MI 27P G100E2	C15
V1127830	C X7R MU 100N K 50E2 125	C10 ,C16 ,C24 ,C25 ,C26 ,C3
C112825	C CE DI 1N S400E2	C33 ,C34 ,C35 ,C36
V114042	C POMERA 100N K250E6 85	C31
V114046	C POMERA 220N K250E6 85	C4 ,C5 ,C6
V114480	C PO RA 1N M100E2 85	C21 ,C22 ,C23
V117017	C TH 1.4-10P 250	C11 ,C12 ,C13
V1314182	Q BC559C P SS TO92	Q1
V1316211	D S 1N4148 075150 DO35	D2 ,D8
V131627	D S BAV21 200250 DO35	D4 ,D5 ,D6
C131646	D R 1N4007 10201A DO41	D9
V131725	D ZEN 24V 2W5 C SOD81	D15
V131742	D ZEN 6V8 0W5 C DO35	D14
V131743	D ZEN 8V2 0W5 C DO35	D7
V131744	D ZEN 5V6 0W5 C DO35	D11
V1319035	D R BYD33M 1021A3 SOD81	D10 ,D13 ,D16
V132516	Q BF422 N SS TO92	Q2 ,Q3
K132869	U 6101 TDA ZIP9 P	U1 ,U2 ,U3
V1330921	HTSNK STD 8.8K/W	N1 ,N2 ,N3
C134002	U 7812 TO220 P	U4
V3060492	CH RA NS 100 UH 0A91	L4
K306180	CH AX BEADS ON WIRE	L1 ,L3
V311042	J CRT FBT B 8-288 SKT	J1
K3135866	J MT MBT P 7 R1 FL BL	J2
V3137820	J CT MBT P10 M2SN	J3
V315302	J PIN TESTEYE	0200
V315319	J TAB1 MBT H 6.3S0.8	J4
K344050	CD HV20K 20-SO POW F/M100	W6
V348000	CBLA TIE B L 98 W2.5	0030
V3481014	WU JUMP 0.6 5.08	W4
V3481024	WU JUMP 0.6 7.62	R40
V3481034	WU JUMP 0.6 10.16	D12
V3481054	WU JUMP 0.6 15.24	W1
V349291	WU HV 20K AWG20 SO 200	W7
V3621212	SCR Z7985 M 3 X 6 STZN	0010,0011
V366102	NUT D934 M 3 STZN	0012
V3685408	I NUT ST M3 PCB SS	0020
V5635021A	UN CRT SOCK CVM3637 PS	
V752277	PCB CRT SOCKET CVM3537	PCB1

PARTS LIST
CONTROL & SYNC (Version 1)
Order number of a complete module : V5635010 (no VITC)

Order number	Description	Item
V1011008	R CFFH 1E J 0W25	R57
V101518	R MF H 33E F 0W4 E2	R136
V101531	R MF H390E F 0W4 E2	R44 ,R45
V101538	R MF H 1K5 F 0W4 E2	R
V1026006	R MF H 1K F 0W6	R99
V1026465	R MF H301E F 0W6	R118
V1026466	R MF H 3K01F 0W6	R98
V1026646	R MF H 4K64F 0W6	R146
V1026676	R MF H 4K99F 0W6	R77 ,R97
V1026680	R MF H 5K11F 0W6	R62
V107009	R TCE H 10K M 0W5 S7 TS	P1
V107010	R TCE H 20K M 0W5 S7 TS	P2
V107012	R TCE H 50K M 0W5 S7 TS	P3
C111467	C EL RA 220M M 16E2 105	C95
K111468	C EL RA 470M M 16E2 85	C187
V111477	C EL RA 100M M 25E2 85	C16 ,C49 ,C50 ,C96
V1114922	C EL RA 2M2M 50E1 105	C15 ,C24
V111494	C EL RA 10M M 63E2 85	C139,C171,C191,C194,C68 ,C84
V1114942	C EL RA 10M M 50E1 105	C165,C71 ,C74 ,C79 ,C85 ,C86
V1115109	C EL RA 22M M 25E2 105	C123,C78
V1115119	C EL RA 47M M 25E2 105	C102,C108,C115,C132,C177,C181, C19 ,C63 ,C88
K111548	REPLACED BY V1115489	C69 ,C73
V1115509	C EL RA 4M7M 63E2 105	C160
V112231	C NP0 MI 12P G100E2	C114
V112232	C NP0 MI 15P G100E2	C100,C90
V112235	C NP0 MI 27P G100E2	C117
V112238	C NP0 MI 47P G100E2	C125,C128
V112239	C NP0 MI 56P G100E2	C174
V112242	C NP0 MI 100P G100E2	C109,C76
V112243	C NP0 MI 120P G100E2	C179
V112364	C N750MI 150P G 63E2	C66
V114080	C POMERA 10N K 63E2 85	C113,C167,C186,C188
V114082	C POMERA 22N K 63E2 85	C104,C166
V114084	C POMERA 47N K 63E2 85	C107,C110
V114086	C POMERA 68N K 63E2 85	C91
V114088	C POMERA 100N K 63E2 85	C185
V114090	C POMERA 220N K 63E2 85	C192,C193
V114094	C POMERA 680N M 50E2 85	C180
V114480	C PO RA 1N M100E2 100	C172,C97
V1144801	C PO RA 1N J100E2 100	C143
V1151502	C PP RA 100P H100E2 85	C56
V115181	C PC RA 220P K100E2 100	C148,C150,C98
V1151811	C PC RA 270P K100E2 100	C103
V1151821	C PC RA 470P K100E2 100	C101,C142,C156
V115183	C PC RA 560P K100E2 100	C120,C163
V116315	C PP RA 4N7H160E2 85	C159
C1314451	Q BD238 P P TO126	Q
V1315046	D BAT86 SCH DO34	D15 ,D16 ,D67 ,D70 ,D71 ,D72 , D79 ,D80 ,D85 ,D88 ,D89 ,D90
V1316211	D 1N4148 SW DO35	D
V131637	D BA158 F R DO41	D39 ,D61 ,D84
V131650	D LED D5 T RED	D45
V131734	D ZEN 2V4 0W5 B DO35	Z
V131751	D ZEN 9V1 0W5 C DO35	D76
V131787	D TVS 5V 1500WU CB429	D91
V132501	Q BC327-25 P SS TO92	Q7
V132710	U 7705B TL DIP8 P	U44
K132727	U 5243-2 SDA DIP40 P	U37
V132764	U 1881 LM DIP8 P	U56
V133047	Q ACC HTSNK TO220	N2
K133206	D LED D5 S GRE	D28
C134002	U 7812 TO220 P	U54

Order number	Description				Item
C134016	U 7912		TO220	P	U69
C134019	U 7808		TO220	P	U30
V134104	U 741	LM	DIP8	P	U65
V134109	U 555	NE	DIP8	P	U55
V134117	U 074	TL	DIP14	P	U13 ,U14 ,U7 ,U9
V134257	U 145406	MC	DIP16	P	U48
V137176	U 24C04	X	DIP8	P	U20
V137178	U 24C16	X	DIP8	P	U18
V1371932	U 80C32		12MDIP40	P	U4
V137250	U SRAM	8KX8	-10DIP28	P	U21 ,U47
K137293	U 5231	SAA	DIP28	P	U36
V137304	U 4067B		DIP24	P	U8
V137324	U 4049B		DIP16	P	U51
V137326	U 4081B		DIP14	P	U61
V137388	U 4040B		DIP16	P	U57
V137395	U 4098B		DIP16	P	U60 ,U62 ,U63
V137406	U 7406		DIP14	P	U52
V137508	U 7407		DIP14	P	U28 ,U50
V137537	U 74HCT4053		DIP16	P	U49
V137549	U 74HCT574		DIP20	P	U59
K137621	U 4731B	HEF	DIP14	P	U67
C137700	U 4053B		DIP16	P	U53 ,U66 ,U68
V137719	U 2595	TDA	DIP18	P	U64
V137732	U 8510	PCA	DIP24	P	U45
V137791	U 3049	SAA	DIP20	P	U12
V1405472	R AB 4	4K7 G 0W2	SIP5		RA1 ,RA2
K3060242	CH RA ES	10 UH	S7 T		L6
K306028	CH RA NS	15 UH			L5
K3060421	CH RA ES	56 UH	S7 T		L3
V306100	CH AX NS	9 UH			L7 ,L8
V3061282	CH AX NS	4.7 UH			L2 ,L4
V3061362	CH AX NS	22 UH			L1
C306846	X	4.000000 MHZ HC43			Y2 ,Y5
K306854	X	13.875000 MHZ			Y4
K306859	X	11.059000 MHZ			Y1
V313244	J U0.6 FBT P40 E1SN SPG				UV37,UV4
V313253	J U0.6 FBT P28 E1SN SPG				UV58
V3132862	J MD1 C MBT P 2 E1SN 6.7				J2 ,J3 ,J7
V3132863	J MD1 C MBT P 3 E1SN 6.7				J4
V313389	D ACC HLDR D5 P1 TS H10				D45
C3133921	J MD SHUNT E1SN PULL OUT				J2 ,J4
V313491	J U0.3 FBT P 8 E1SN SPG				UV18,UV20
V313495	J U0.3 FBT P16 E1SN SPG				UV48
V3134971	J U0.6 FBT P32 E1AU TLP				UV22
V3135165	J DE P8 FBS P 9 FUMBLPGDB				J1 ,J5
V3135175	J DE P5 MBS P 9 FUMBLPGDB				J6
V313525	J EUR2C MBS P64 E1C2S 1.6				J102
C313551	J U0.3 FBT P20 E1SN SPG				UV23
C313590	J EUR2C MBS P32 E2C2S 1.6				J101
K324359	RLY 5V 2C	BH DIP M UL			K1
V348074	RVT SNP D3	L 4.5	P		0100
V362199	SCR D7985 M 3	X 8	SCZ		N2 ,N3
V366940	SPR I L 1.5 M 3 T1.5 S T				N2
V367600	NUT BLOC	M 3			N3
V5683010	SOFT CVM3000		V1.00		U22
V5683011	SOFT CVM3000 TIMING		V1.00		U58
V5683012	SOFT CVM3000 ADC		V1.00		U23
V602950	J TAB1 BT D				TP1 ,TP2 ,TP3 ,TP4
V681062	SMD CON&SYN	CVM3000			PCB1 (refer to separate Parts List below)

PARTS LIST
CONTROL & SYNC Surface Mounted Devices
Reference number of a complete SMD : V681062

Order number	Description	Item
P200025	R# CE H 10E J 0W12 1206	R151,R183,R225
P200033	R# CE H 22E J 0W12 1206	R6
P200037	R# CE H 33E J 0W12 1206	R52 ,R53

Order number	Description	Item
P200041	R# CE H 47E J 0W12 1206	R1 ,R157,R158,R170,R178,R181, R182,R191,R192,R196,R2 ,R205, R54
P200047	R# CE H 82E J 0W12 1206	R121
P200049	R# CE H100E J 0W12 1206	R100,R101,R120,R14 ,R145,R155, R156,R159,R160,R168,R169,R171, R175,R176,R177,R179,R180,R185, R190,R202,R214,R23 ,R232,R233, R239,R240,R242,R253,R263,R276, R28 ,R3 ,R32 ,R51 ,R56 ,R63 , R64 ,R65 ,R7 ,R75 ,R76 ,R78 , R8 ,R80 ,R81 ,R9 ,R91
P200057	R# CE H220E J 0W12 1206	R84 ,R86
P200059	R# CE H270E J 0W12 1206	R243
P200065	R# CE H470E J 0W12 1206	R102,R131,R26 ,R274,R275,R46 , R47 ,R48 ,R50
P200069	R# CE H680E J 0W12 1206	R152,R216,R218,R269,R87 ,R93
P200071	R# CE H820E J 0W12 1206	R224
P200073	R# CE H 1K J 0W12 1206	R104,R108,R119,R83 ,R92
P200075	R# CE H 1K2 J 0W12 1206	R138,R266,R267
P200077	R# CE H 1K5 J 0W12 1206	R161,R226
P200081	R# CE H 2K2 J 0W12 1206	R147,R153,R154,R162,R172,R201, R213,R245,R256,R261,R49 ,R85
P200083	R# CE H 2K7 J 0W12 1206	R106,R135
P200085	R# CE H 3K3 J 0W12 1206	R109,R129,R186,R187,R193,R194, R235,R238,R250,R251,R262
P200087	R# CE H 3K9 J 0W12 1206	R112,R113,R114,R230,R252,R94
P200089	R# CE H 4K7 J 0W12 1206	R10 ,R107,R11 ,R12 ,R13 ,R132, R133,R144,R15 ,R16 ,R163,R17 , R18 ,R184,R19 ,R203,R206,R21 , R22 ,R228,R24 ,R249,R257,R265, R27 ,R30 ,R31 ,R33 ,R35 ,R36 , R37 ,R38 ,R39 ,R4 ,R40 ,R41 , R42 ,R43 ,R5 ,R58 ,R59 ,R61 , R70 ,R88
P200091	R# CE H 5K6 J 0W12 1206	R173,R241,R254,R260
P200093	R# CE H 6K8 J 0W12 1206	R174
P200095	R# CE H 8K2 J 0W12 1206	R229
P200097	R# CE H 10K J 0W12 1206	R103,R130,R141,R143,R148,R195, R211,R220,R25 ,R264,R268,R270, R55 ,R68 ,R72 ,R73 ,R74
P200099	R# CE H 12K J 0W12 1206	R227,R236,R237,R244,R248
P200101	R# CE H 15K J 0W12 1206	R110,R215,R259,R89 ,R95
P200103	R# CE H 18K J 0W12 1206	R231
P200105	R# CE H 22K J 0W12 1206	R105,R258
P200107	R# CE H 27K J 0W12 1206	R137
P200109	R# CE H 33K J 0W12 1206	R188,R189,R20 ,R223
P200111	R# CE H 39K J 0W12 1206	R204
P200113	R# CE H 47K J 0W12 1206	R111,R142,R207,R234,R82 ,R90 , R96
P200117	R# CE H 68K J 0W12 1206	R134,R60 ,R79
P200121	R# CE H100K J 0W12 1206	R246
P200125	R# CE H150K J 0W12 1206	R247,R34
P200129	R# CE H220K J 0W12 1206	R212
P200133	R# CE H330K J 0W12 1206	R217
P200141	R# CE H680K J 0W12 1206	R208
P200155	R# CE H 2M7 J 0W12 1206	R255
P201353	R# CE H 0E J 0W12 1206	R69
P201354	R# CE H 0E J 0W1 0805	R122,R123,R124,R125,R126,R127, R128,R139,R140,R149,R150,R164, R165,R166,R167
P210001	C# COG MU 10P C 50 0805	C189
P210019	C# COG MU 47P J 50 0805	C195
P210023	C# COG MU 220P J 50 0805	C124,C136,C137,C144,C158
P210041	C# X7R MU 10N K 50 0805	C112,C116,C118,C151,C52 ,C67
P210122	C# X7R MU 100N K 50 1206	C1 ,C10 ,C11 ,C111,C119,C12 , C122,C129,C13 ,C131,C133,C134, C135,C138,C14 ,C140,C141,C146, C149,C152,C154,C155,C157,C161, C164,C169,C170,C173,C175,C176,

Order number	Description	Item
P210122	C# X7R MU 100N K 50 1206	C178,C182,C183,C184,C190,C2 , C25 ,C26 ,C27 ,C33 ,C34 ,C35 , C36 ,C37 ,C38 ,C39 ,C40 ,C41 , C42 ,C47 ,C48 ,C51 ,C53 ,C54 , C55 ,C57 ,C58 ,C64 ,C65 ,C7 , C70 ,C72 ,C8 ,C87 ,C9 ,C92 , C93 ,C94 ,C99
P210141	C# COG MU 27P J 50 1206	C17 ,C18
P210158	C# COG MU 150P J 50 1206	C77
P210159	C# COG MU 18P J 50 1206	C127,C130
P210169	C# X7R MU 220N K 50 1210	C145,C20 ,C21 ,C22 ,C23 ,C28 , C29 ,C3 ,C30 ,C31 ,C4 ,C43 , C44 ,C45 ,C46 ,C5 ,C6
P230034	U#4013 SO14 I	U11 ,U15
P230051	U#74HCT245 SOL20 I	U1 ,U5 ,U6
P230082	U#555 NE SO8 P	U25
P230097	U#431 TL SO8 P	U43
P230193	U#74LS136 SO14 P	U38
P230216	U#74HC4053 SO16 I	U35
P230342	U#7407 SO14 P	U17 ,U24
P230387	U#74HCT138 SO16 I	U10 ,U16
P230427	U#74HCT573 SOL20 I	U2
P230464	U#74HCT574 SOL20 I	U27 ,U3 ,U33
P230465	U#74HCT4053 SO16 I	U19 ,U26
P230466	U#08 DAC SO16 P	U34
P230768	U#5534 NE SO8 P	U29
P232004	Q#BC849C N SS SOT23	Q1 ,Q10 ,Q14 ,Q17 ,Q3 ,Q4 , Q8 ,Q9
P232044	Q#BC859B P SS SOT23	Q12
P232050	Q#BC857B P SS SOT23	Q15
P232121	Q#BC858B P SS SOT23	Q5 ,Q6
P234099	D#4148 R DMMELF	D1 ,D10 ,D11 ,D12 ,D13 ,D14 , D17 ,D18 ,D2 ,D20 ,D21 ,D22 , D23 ,D24 ,D25 ,D26 ,D27 ,D29 , D3 ,D30 ,D31 ,D32 ,D33 ,D34 , D35 ,D36 ,D37 ,D38 ,D4 ,D40 , D41 ,D42 ,D43 ,D46 ,D47 ,D48 , D49 ,D5 ,D50 ,D51 ,D52 ,D53 , D54 ,D55 ,D56 ,D57 ,D58 ,D6 , D62 ,D63 ,D64 ,D65 ,D66 ,D68 , D69 ,D7 ,D73 ,D74 ,D75 ,D78 , D8 ,D81 ,D82 ,D83 ,D86 ,D87 , D9 ,D94
P234127	D#ZEN 5V1 0W5 C DMMELF	D44 ,D77
P234165	D#ZEN 4V7 0W5 C DMMELF	D60
P905621	PRINT - P1746621	S

PARTS LIST
CONTROL & SYNC (Version 1)
Order number of a complete module : V5635011 (with VITC)

Order number	Description	Item
V1011008	R CFFH 1E J 0W25	R57
V101518	R MF H 33E F 0W4 E2	R136
V101519	R MF H 39E F 0W4 E2	R116
V101531	R MF H390E F 0W4 E2	R44 ,R45
V101535	R MF H820E F 0W4 E2	R115
V101538	R MF H 1K5 F 0W4 E2	R
V1026006	R MF H 1K F 0W6	R99
V1026465	R MF H301E F 0W6	R117,R118
V1026466	R MF H 3K01F 0W6	R98
V1026646	R MF H 4K64F 0W6	R146
V1026676	R MF H 4K99F 0W6	R77 ,R97
V1026680	R MF H 5K11F 0W6	R62
V107009	R TCE H 10K M 0W5 S7 TS	P1
V107010	R TCE H 20K M 0W5 S7 TS	P2
V107012	R TCE H 50K M 0W5 S7 TS	P3
C111467	C EL RA 220M M 16E2 105	C95

Order number	Description	Item
K111468	C EL RA 470M M 16E2 85	C187
V111477	C EL RA 100M M 25E2 85	C16 ,C49 ,C50 ,C82 ,C96
V1114922	C EL RA 2M2M 50E1 105	C15 ,C24
V111494	C EL RA 10M M 63E2 85	C139,C171,C191,C194,C68 ,C84
V1114942	C EL RA 10M M 50E1 105	C165,C71 ,C74 ,C79 ,C85 ,C86
V1115109	C EL RA 22M M 25E2 105	C123,C78
V1115119	C EL RA 47M M 25E2 105	C102,C108,C115,C132,C177,C181, C19 ,C63 ,C88
K111548	REPLACED BY V1115489	C69 ,C73
V1115509	C EL RA 4M7M 63E2 105	C160
V112231	C NP0 MI 12P G100E2	C114
V112232	C NP0 MI 15P G100E2	C100,C90
V112235	C NP0 MI 27P G100E2	C117
V112238	C NP0 MI 47P G100E2	C125,C128
V112239	C NP0 MI 56P G100E2	C174
V112242	C NP0 MI 100P G100E2	C109,C76
V112243	C NP0 MI 120P G100E2	C179
V112364	C N750MI 150P G 63E2	C66
V114080	C POMERA 10N K 63E2 85	C113,C167,C186,C188
V114082	C POMERA 22N K 63E2 85	C104,C166
V114084	C POMERA 47N K 63E2 85	C107,C110
V114086	C POMERA 68N K 63E2 85	C91
V114088	C POMERA 100N K 63E2 85	C147,C162,C185
V114090	C POMERA 220N K 63E2 85	C192,C193
V114094	C POMERA 680N M 50E2 85	C180
V114096	C POMERA 1M K 50E2 85	C80 ,C81
V114480	C PO RA 1N M100E2 100	C172,C97
V1144801	C PO RA 1N J100E2 100	C143
V114483	C PO RA 3N3M100E2 100	C62
V1151502	C PP RA 100P H100E2 85	C56
V115181	C PC RA 220P K100E2 100	C148,C150,C98
V1151811	C PC RA 270P K100E2 100	C103
V115182	C PC RA 330P K100E2 100	C61
V1151821	C PC RA 470P K100E2 100	C101,C142,C156
V115183	C PC RA 560P K100E2 100	C120,C163
V116315	C PP RA 4N7H160E2 85	C159
C1314451	Q BD238 P P TO126	Q
V1315046	D BAT86 SCH DO34	D15 ,D16 ,D67 ,D70 ,D71 ,D72 , D79 ,D80 ,D85 ,D88 ,D89 ,D90
V1316211	D 1N4148 SW DO35	D
V131637	D BA158 F R DO41	D39 ,D61 ,D84
V131650	D LED D5 T RED	D45
V131734	D ZEN 2V4 0W5 B DO35	Z
V131751	D ZEN 9V1 0W5 C DO35	D76
V131787	D TVS 5V 1500WU CB429	D91
V132501	Q BC327-25 P SS TO92	Q7
V132710	U 7705B TL DIP8 P	U44
K132727	U 5243-2 SDA DIP40 P	U37
V132764	U 1881 LM DIP8 P	U56
V133047	Q ACC HTSNK TO220	N2
K133206	D LED D5 S GRE	D28
C134002	U 7812 TO220 P	U54
C134016	U 7912 TO220 P	U69
C134019	U 7808 TO220 P	U30
V134039	U 16V8 GAL 25DIP20 P	U23
V134104	U 741 LM DIP8 P	U65
V134109	U 555 NE DIP8 P	U55
V134117	U 074 TL DIP14 P	U13 ,U14 ,U7 ,U9
V134257	U 145406 MC DIP16 P	U48
V137176	U 24C04 X DIP8 P	U20
V137178	U 24C16 X DIP8 P	U18
V1371932	U 80C32 12MDIP40 P	U4
V137250	U SRAM 8KX8 -10DIP28 P	U21 ,U47
K137293	U 5231 SAA DIP28 P	U36
V137304	U 4067B DIP24 P	U8
V137324	U 4049B DIP16 P	U51
V137326	U 4081B DIP14 P	U61
C137365	U 74LS157 DIP16 P	U39 ,U40 ,U41 ,U46
V137388	U 4040B DIP16 P	U57
V137395	U 4098B DIP16 P	U60 ,U62 ,U63

Order number	Description	Item
V137406	U 7406 DIP14 P	U52
V137508	U 7407 DIP14 P	U28 ,U50
V137537	U 74HCT4053 DIP16 P	U49
V137549	U 74HCT574 DIP20 P	U59
K137621	U 4731B HEF DIP14 P	U67
C137700	U 4053B DIP16 P	U53 ,U66 ,U68
V137704	U 4050B DIP16 P	U31
V137719	U 2595 TDA DIP18 P	U64
V137732	U 8510 PCA DIP24 P	U45
V137791	U 3049 SAA DIP20 P	U12
V137797	U#2008 ICS PLCC44 P	U32
V1405472	R AB 4 4K7 G 0W2 SIP5	RA1 ,RA2
K3060242	CH RA ES 10 UH S7 T	L6
K306028	CH RA NS 15 UH	L5
K3060421	CH RA ES 56 UH S7 T	L3
V306100	CH AX NS 9 UH	L7 ,L8
V3061282	CH AX NS 4.7 UH	L2 ,L4
V3061362	CH AX NS 22 UH	L1
V306800	X ACC INSUL HC49	Y'3
C306846	X 4.000000 MHZ HC43	Y2 ,Y5
K306854	X 13.875000 MHZ	Y4
V306858	X 14.318180 MHZ HC49 P20	Y3
K306859	X 11.059000 MHZ	Y1
V313244	J U0.6 FBT P40 E1SN SPG	UV37,UV4
V3132504	J UPLCC FBT P44 E1SN SPG	UV32
V313253	J U0.6 FBT P28 E1SN SPG	UV58
V3132862	J MD1 C MBT P 2 E1SN 6.7	J2 ,J3 ,J7
V3132863	J MD1 C MBT P 3 E1SN 6.7	J4
V313389	D ACC HLDR D5 P1 TS H10	D45
C3133921	J MD SHUNT E1SN PULL OUT	J2 ,J4
V313491	J U0.3 FBT P 8 E1SN SPG	UV18,UV20
V313495	J U0.3 FBT P16 E1SN SPG	UV48
V3134971	J U0.6 FBT P32 E1AU TLP	UV22
V3135165	J DE P8 FBS P 9 FUMBLPGDB	J1 ,J5
V3135175	J DE P5 MBS P 9 FUMBLPGDB	J6
V313525	J EUR2C MBS P64 E1C2S 1.6	J102
C313551	J U0.3 FBT P20 E1SN SPG	UV23
C313590	J EUR2C MBS P32 E2C2S 1.6	J101
K324359	RLY 5V 2C BH DIP M UL	K1
V348074	RVT SNP D3 L 4.5 P	0100
V362199	SCR D7985 M 3 X 8 SCZ	N2 ,N3
V366940	SPR I L 1.5 M 3 T1.5 S T	N2
V367600	NUT BLOC M 3	N3
V5683010	SOFT CVM3000 V1.00	U22
V5683011	SOFT CVM3000 TIMING V1.00	U58
V602950	J TAB1 BT D	TP1 ,TP2 ,TP3 ,TP4
V681061	SMD CON&SYN VIT CVM3000	PCB1 (refer to separate Parts List)

PARTS LIST
CONTROL & SYNC Surface Mounted Devices
Reference number of a complete SMD : V681061

P200025	R# CE H 10E J 0W12 1206	R151,R183,R225
P200033	R# CE H 22E J 0W12 1206	R6
P200037	R# CE H 33E J 0W12 1206	R52 ,R53
P200041	R# CE H 47E J 0W12 1206	R1 ,R157,R158,R170,R178,R181, R182,R191,R192,R196,R2 ,R205, R54
P200047	R# CE H 82E J 0W12 1206	R121
P200049	R# CE H100E J 0W12 1206	R100,R101,R120,R14 ,R145,R155, R156,R159,R160,R168,R169,R171, R175,R176,R177,R179,R180,R185, R190,R202,R214,R23 ,R232,R233, R239,R240,R242,R253,R263,R276, R28 ,R3 ,R32 ,R51 ,R56 ,R63 , R64 ,R65 ,R7 ,R75 ,R76 ,R78 , R8 ,R80 ,R81 ,R9 ,R91
P200057	R# CE H220E J 0W12 1206	R84 ,R86
P200059	R# CE H270E J 0W12 1206	R243

Order number	Description	Item
P200065	R# CE H470E J 0W12 1206	R102,R131,R199,R26 ,R274,R275, R46 ,R47 ,R48 ,R50
P200069	R# CE H680E J 0W12 1206	R152,R216,R218,R269,R87 ,R93
P200071	R# CE H820E J 0W12 1206	R224
P200073	R# CE H 1K J 0W12 1206	R104,R108,R119,R210,R83 ,R92
P200075	R# CE H 1K2 J 0W12 1206	R138,R266,R267
P200077	R# CE H 1K5 J 0W12 1206	R161,R226
P200081	R# CE H 2K2 J 0W12 1206	R147,R153,R154,R162,R172,R201, R213,R245,R256,R261,R49 ,R67 , R85
P200083	R# CE H 2K7 J 0W12 1206	R106,R135
P200085	R# CE H 3K3 J 0W12 1206	R109,R129,R186,R187,R193,R194, R235,R238,R250,R251,R262
P200087	R# CE H 3K9 J 0W12 1206	R112,R113,R114,R230,R252,R94
P200089	R# CE H 4K7 J 0W12 1206	R10 ,R107,R11 ,R12 ,R13 ,R132, R133,R144,R15 ,R16 ,R163,R17 , R18 ,R184,R19 ,R198,R203,R206, R21 ,R22 ,R228,R24 ,R249,R257, R265,R27 ,R30 ,R31 ,R33 ,R35 , R36 ,R37 ,R38 ,R39 ,R4 ,R40 , R41 ,R42 ,R43 ,R5 ,R58 ,R59 , R61 ,R70 ,R88
P200091	R# CE H 5K6 J 0W12 1206	R173,R241,R254,R260
P200093	R# CE H 6K8 J 0W12 1206	R174
P200095	R# CE H 8K2 J 0W12 1206	R197,R229
P200097	R# CE H 10K J 0W12 1206	R103,R130,R141,R143,R148,R195, R209,R211,R220,R25 ,R264,R268, R270,R55 ,R66 ,R68 ,R72 ,R73 , R74
P200099	R# CE H 12K J 0W12 1206	R227,R236,R237,R244,R248
P200101	R# CE H 15K J 0W12 1206	R110,R215,R259,R89 ,R95
P200103	R# CE H 18K J 0W12 1206	R231
P200105	R# CE H 22K J 0W12 1206	R105,R258
P200107	R# CE H 27K J 0W12 1206	R137
P200109	R# CE H 33K J 0W12 1206	R188,R189,R20 ,R223
P200111	R# CE H 39K J 0W12 1206	R204
P200113	R# CE H 47K J 0W12 1206	R111,R142,R207,R234,R82 ,R90 , R96
P200117	R# CE H 68K J 0W12 1206	R134,R60 ,R79
P200121	R# CE H100K J 0W12 1206	R246
P200125	R# CE H150K J 0W12 1206	R247,R34
P200129	R# CE H220K J 0W12 1206	R212,R71
P200133	R# CE H330K J 0W12 1206	R217
P200141	R# CE H680K J 0W12 1206	R208
P200145	R# CE H 1M J 0W12 1206	R200,R221
P200155	R# CE H 2M7 J 0W12 1206	R255
P201353	R# CE H 0E J 0W12 1206	R69
P210001	C# COG MU 10P C 50 0805	C189
P210019	C# COG MU 47P J 50 0805	C153,C195
P210023	C# COG MU 220P J 50 0805	C124,C136,C137,C144,C158
P210041	C# X7R MU 10N K 50 0805	C112,C116,C118,C151,C52 ,C67 , C75
P210122	C# X7R MU 100N K 50 1206	C1 ,C10 ,C105,C106,C11 ,C111, C119,C12 ,C121,C122,C126,C129, C13 ,C131,C133,C134,C135,C138, C14 ,C140,C141,C146,C149,C152, C154,C155,C157,C161,C164,C169, C170,C173,C175,C176,C178,C182, C183,C184,C190,C2 ,C25 ,C26 , C27 ,C33 ,C34 ,C35 ,C36 ,C37 , C38 ,C39 ,C40 ,C41 ,C42 ,C47 , C48 ,C51 ,C53 ,C54 ,C55 ,C57 , C58 ,C60 ,C64 ,C65 ,C7 ,C70 , C72 ,C8 ,C83 ,C87 ,C89 ,C9 , C92 ,C93 ,C94 ,C99
P210141	C# COG MU 27P J 50 1206	C17 ,C18
P210158	C# COG MU 150P J 50 1206	C77
P210159	C# COG MU 18P J 50 1206	C127,C130
P210169	C# X7R MU 220N K 50 1210	C145,C20 ,C21 ,C22 ,C23 ,C28 , C29 ,C3 ,C30 ,C31 ,C4 ,C43 ,

Order number	Description	Item
P210169	C# X7R MU 220N K 50 1210	C44 ,C45 ,C46 ,C5 ,C6
P230034	U#4013 SO14 I	U11 ,U15
P230051	U#74HCT245 SOL20 I	U1 ,U42 ,U5 ,U6
P230082	U#555 NE SO8 P	U25
P230097	U#431 TL SO8 P	U43
P230193	U#74LS136 SO14 P	U38
P230216	U#74HC4053 SO16 I	U35
P230342	U#7407 SO14 P	U17 ,U24
P230387	U#74HCT138 SO16 I	U10 ,U16
P230427	U#74HCT573 SOL20 I	U2
P230464	U#74HCT574 SOL20 I	U27 ,U3 ,U33
P230465	U#74HCT4053 SO16 I	U19 ,U26
P230466	U#08 DAC SO16 P	U34
P230768	U#5534 NE SO8 P	U29
P232004	Q#BC849C N SS SOT23	Q1 ,Q10 ,Q11 ,Q13 ,Q14 ,Q17 , Q2 ,Q3 ,Q4 ,Q8 ,Q9
P232044	Q#BC859B P SS SOT23	Q12
P232050	Q#BC857B P SS SOT23	Q15
P232121	Q#BC858B P SS SOT23	Q5 ,Q6
P234099	D#4148 R DMMELF	D1 ,D10 ,D11 ,D12 ,D13 ,D14 , D17 ,D18 ,D2 ,D20 ,D21 ,D22 , D23 ,D24 ,D25 ,D26 ,D27 ,D29 , D3 ,D30 ,D31 ,D32 ,D33 ,D34 , D35 ,D36 ,D37 ,D38 ,D4 ,D40 , D41 ,D42 ,D43 ,D46 ,D47 ,D48 , D49 ,D5 ,D50 ,D51 ,D52 ,D53 , D54 ,D55 ,D56 ,D57 ,D58 ,D6 , D62 ,D63 ,D64 ,D65 ,D66 ,D68 , D69 ,D7 ,D73 ,D74 ,D75 ,D78 , D8 ,D81 ,D82 ,D83 ,D86 ,D87 , D9 ,D94
P234127	D#ZEN 5V1 0W5 C DMMELF	D44 ,D77
P234165	D#ZEN 4V7 0W5 C DMMELF	D60
P905621	PRINT - P1746621	S

PARTS LIST
CONTROL & SYNC (Version 2 with SAD)
Order number of a complete module : V5635015 (no VITC) **, V5635016** (VITC)

Order number	Description	Item (if printed *italic*, only on V5635016)
V1011008 !	R CFFH 1E J 0W25	R122,R42
V101225	R MF H120E J 0W5 E4	D8
V101277	R MF H 2M7 J 0W5 E4	R256
V101512	R MF H 10E F 0W4 E3	R170,R213
V101516	R MF H 22E F 0W4 E3	R104
V101518	R MF H 33E F 0W4 E3	R11 ,R13 ,R238
V101520	R MF H 47E F 0W4 E3	R124,R125,R126,R139,R141,R142, R165,R166,R173,R198,R2 ,R27 , R62 ,R98
V101524	R MF H100E F 0W4 E3	R1 ,R10 ,R103,R108,R113,*R115*, *R119*,R12 ,R121,R123,R129,R138, R140,R146,R151,R159,R171,R179, R18 ,R184,R20 ,R201,R21 ,R22 , R226,R239,R242,R255,R26 ,R41 , R46 ,R49 ,R50 ,R59 ,R67 ,R70 , R74 ,R76 ,R80 ,R85 ,R86 ,R87 , R91 ,R92 ,R93 ,R94 ,R95 ,R96 , R99
V101528	R MF H220E F 0W4 E3	R81
V101529	R MF H270E F 0W4 E3	R106,R114
V101530	R MF H330E F 0W4 E3	R19
V101531	R MF H390E F 0W4 E3	R102,R29 ,R31
V101532	R MF H470E F 0W4 E3	R183,R187,R222,R229,R233,R236, R247,R253,R52
V101533	R MF H560E F 0W4 E3	R109,R51
V101534	R MF H680E F 0W4 E3	R158
V101535	R MF H820E F 0W4 E3	R149
V101536	R MF H 1K F 0W4 E3	R100,R127,R167,R245,R53 ,R60 , R97
V101537	R MF H 1K2 F 0W4 E3	R156,R168,R189,R199
V101538	R MF H 1K5 F 0W4 E3	R110,R111,R132,R251,R254
V101540	R MF H 2K2 F 0W4 E3	R148,*R174*,R185,R197,R203,R241, R250
V101541	R MF H 2K7 F 0W4 E3	R143
V101542	R MF H 3K3 F 0W4 E3	R101,R112,R147,R155,R175,R182, R188,R194,R196,R205,R206,R212, R214,R249,R4 ,R6
V101543	R MF H 3K9 F 0W4 E3	R128,R131,R136,R153
V101544	R MF H 4K7 F 0W4 E3	R ,*R117*,*R118*,R120,R133,R134, R135,R14 ,R15 ,R150,R157,R16 , R160,R17 ,R176,R181,R186,R195, R202,R204,R208,R209,R210,R216, R218,R219,R220,R221,R224,R225, R23 ,R231,R232,R24 ,R25 ,R3 , R32 ,R33 ,R34 ,R35 ,R36 ,R37 , R38 ,R39 ,R40 ,R43 ,R44 ,R48 , R54 ,R58 ,R61 ,R63 ,R64 ,R65 , R66 ,R77 ,R78 ,R79 ,R82 ,R83 , R84
V101545	R MF H 5K6 F 0W4 E3	R180,R190,R191,R217
V101546	R MF H 6K8 F 0W4 E3	R177
V101548	R MF H 10K F 0W4 E3	R152,R172,R193,R235,R243,R246, R252,R68 ,R69 ,R7 ,*R73* ,*R88* , *R89*
V101549	R MF H 12K F 0W4 E3	R162,R164,R215,R300,R301
V101550	R MF H 15K F 0W4 E3	R107,R116,R137,R200,R244,R72 , R75
V101551	R MF H 18K F 0W4 E3	R154,R71
V101552	R MF H 22K F 0W4 E3	R161,R178
V101553	R MF H 27K F 0W4 E3	R130,R145,R237,R90
V101554	R MF H 33K F 0W4 E3	R169,R211,R248,R5
V101556	R MF H 47K F 0W4 E3	R144,R55 ,R56 ,R57
V101560	R MF H100K F 0W4 E3	R105,R163,R8 ,R9

Order number	Description	Item (if printed *italic*, only on V5635016)
V101561	R MF H120K F 0W4 E3	R192
V1026006	R MF H 1K F 0W6 E4	R30
V1026465	R MF H301E F 0W6 E4	R47
V1026466	R MF H 3K01F 0W6 E4	R28
V1026646	R MF H 4K64F 0W6 E4	R45
V1026656	R MF H 4K75F 0W6 E4	R (only on V5635016)
V107010	R TCE H 20K K 0W5 S 7TS	P2 ,P4
V107012	R TCE H 50K K 0W5 S 7TS	P3
V107028	R TCE V 5K K 0W5 S 7SS	P6
V1075302	R MCE V 50K K 0W5 M10TS	*P1*
C111467	C EL RA 220M M 16E2 105	C140,C35
K1114777	C EL RA 100M M 25E2 105	C12 ,C154,C2 ,C28 ,C3
V111492	C EL RA 2M2M 63E2 85	C15 ,C20
V1115109	C EL RA 22M M 25E2 105	C125,C65 ,C84
V1115119	C EL RA 47M M 25E2 105	C5 ,C75
V1115319	C EL RA 10M M 50E2 105	C121,C13 ,C142,C150,C160,C19 , C25 ,C27 ,C31 ,C49 ,C51 ,C61 , C66 ,C79 ,C8 ,C81 ,C87 ,C88
V1115509	C EL RA 4M7M 63E2 105	C113
V112232	C NP0 MI 15P G100E2	*C59*
V112235	C NP0 MI 27P G100E2	C17 ,C4
V112236	C NP0 MI 33P G100E2	C83
V112237	C NP0 MI 39P G100E2	C115,*C69* ,*C77*
V112276	C N150MI 33P G100E2	C101,C102,C63 ,C67
V112278	C N150MI 47P G100E2	C134,C47
V112361	C N750MI 82P G100E2	C52
V112362	C N750MI 100P G100E2	C14
V112366	C N750MI 220P G100E2	C104,C123,C132,C89 ,C95
V1127830	C X7R MU 100N K 50E2 125	C10 ,C100,C105,C106,C107,C108, C11 ,C111,C116,C122,C124,C126, C127,C128,C129,C131,C135,C141, C143,C144,C148,C149,C151,C152, C153,C155,C156,C157,C16 ,C164, C18 ,C21 ,C22 ,C23 ,C24 ,C26 , C32 ,C33 ,C34 ,C36 ,C37 ,C38 , C39 ,C40 ,C42 ,C43 ,C44 ,C45 , C46 ,C48 ,C50 ,C53 ,*C54* ,C55 , C57 ,C58 ,C6 ,*C62* ,C64 ,C68 , C7 ,C70 ,C71 ,*C73* ,C74 ,C78 , C80 ,C82 ,C85 ,C86 ,C90 ,*C91* , C92 ,C93 ,C94 ,C96
V112817	C CE DI 220P M400E2	*C*
V114080	C POMERA 10N K 63E2 85	C109,C120,C165,C29 ,C30 ,*C72* , *C76* ,C9 ,*C97*
V114082	C POMERA 22N K 63E2 85	C118
V114088	C POMERA 100N K 63E2 85	C1 ,C103,C119,C56
V114090	C POMERA 220N K 63E2 85	C139
V114094	C POMERA 680N M 50E2 85	C110
V114480	C PO RA 1N M100E2 85	C99
V1144801	C PO RA 1N J100E2 85	C145
V115153	C PP RA 220P J100E2 85	C112,C117,C136,C137,C98
V1151572	C PP RA 470P H100E2 85	C163
V1151821	C PC RA 470P K160E2 100	C41
V116315	C PP RA 4N7 H160E2 85	C114
V131411	Q BC549C N SS TO92	Q1 ,Q10 ,Q3 ,Q5
V1314131	Q BC557B P SS TO92	Q6
V1314182	Q BC559C P SS TO92	Q2 ,*Q4* ,Q7 ,Q8
C1314451	Q BD238 P P TO126	Q13
V1315041	D BAT41 SCH DO35	*D*
V1315046	D Y BAT86 050200 DO34	D22 ,D57 ,D58 ,D61 ,D62 ,D65 , D68 ,D69 ,D70 ,D71 ,D74 ,D77
V1316211	D S 1N4148 075150 DO35	D10 ,D11 ,D12 ,D13 ,D14 ,D15 , D16 ,D17 ,D18 ,D19 ,D2 ,D20 , D21 ,D23 ,D24 ,D26 ,D27 ,D28 , D29 ,D30 ,D31 ,D32 ,D33 ,D34 , D35 ,D37 ,D38 ,D39 ,D4 ,D40 , D41 ,D42 ,D44 ,D45 ,D46 ,D47 , D48 ,D49 ,D5 ,D52 ,D53 ,D54 , D55 ,D56 ,D59 ,D6 ,D60 ,D63 , D64 ,D66 ,D67 ,D7 ,D78 ,D79 ,

Order number	Description	Item (if printed *italic*, only on V5635016)
V1316211	D S 1N4148 075150 DO35	D9
V131637	D R BA158 600400 DO7	D72 ,D75
V131650	D LED D5 RD	D76
C131714	D STB 1V4 0W33 DO35	D51
V131751	D ZEN 9V1 0W5 C DO35	D50
V131787	D TVS 5V 1500WU CB429	D73
V132194	U 072 TL DIP8 P	U58
V132501	Q BC327-25 P SS TO92	Q9
V132626	Q J310 FN SS TO92	Q11 ,Q12
V132710	U 7705B TL DIP8 P	U14
V133091	Q ACC HTSNK 40 K TO220	N2
K133206	D LED D5 S GN	D25
B133327	U 88303 MB DIP22 P	U17
B133328	U 5252 SAA DIP24 P	U25
B133332	U 528 MAX DIP20 P	U5 ,U6
B133334	U 1820E MV DIP16 P	U24
C134002	U 7812 TO220 P	U46
C134016	U 7912 TO220 P	U56
V134018	U 431C TL TO92 P	D1 ,D3 ,D36
V1341096	U 555 NE DIP8 P	U1
V134129	U 393 LM DIP8 P	U15
B134152	U 913 MAX DIP8 P	U26
V134257	U 145406 MC DIP16 P	U32
V137178	U 24C16 X DIP8 P	U2 ,U3
V1371932	U 80C32 12MDIP40 P	U4
V137200	U 82C55A 12MDIP40 P	U13
V137250	U SRAM 8KX8 -10DIP28 P	U12
R137274	U 8256AH DIP40 P	U41
V1372831	U DRAM 256KX4 80ZIP20 P	U30
V137324	U 4049B DIP16 P	U33
V137352	U 74LS00 DIP14 P	U21 ,U28
V137388	U 4040B DIP16 P	U53
V1373916	U 74HC4053 DIP16 P	U31
V137395	U 4098B DIP16 P	U35 ,U45 ,U49
V137397	U 4013B DIP14 P	U22 ,U52
V137406	U 7406 DIP14 P	U43 ,U47
V137508	U 7407 DIP14 P	U23 ,U38 ,U44 ,U51
V1375111	U 74HCT08 DIP14 P	U40
V137514	U 74LS161A DIP16 P	U27
V137519	U 74HC32 DIP14 P	U34
V1375361	U 74HCT573 DIP20 P	U8
V137537	U 74HCT4053 DIP16 P	U42 ,U7
K137540	U 74HCT157 DIP16 P	U37
V137549	U 74HCT574 DIP20 P	*U16* ,U54
K137621	U 4731B HEF DIP14 P	U57
C137700	U 4053B DIP16 P	U36 ,U55
V137719	U 2595 TDA DIP18 P	U39
V137791	U 3049 SAA DIP20 P	U10
P230735	U#3030-70 XC PLCC44 P	U20
P231237	U#5273 SDA PLCC68 P	U29
P231238	U#654220 MB PLCC28 P	*U18*
V306100	CH AX NS 9 UH	L3 ,L4
V3061264	CH AX NS 3.3 UH	L1
V3068202	X 20.480MHZ HC-49 U	Y7
V3068204	X 14.31818 MHZ OSC	Y3
V3068205	X 5.12 MHZ OSC	Y8
V3068206	X 27.750 MHZ OSC	*Y5*
C306846	X 4.000000 MHZ HC43	Y2 ,Y6
V306860	X 12.000000 MHZ HC49 P30	Y1 ,Y4
V313244	J U0.6 FBT P40 E1SN SPG	UV4
V3132500	J UPLCC FBT P28 E1SN SPG	*UV18*
V3132502	J UPLCC FBT P68 E1SN SPG	UV29
V3132504	J UPLCC FBT P44 E1SN SPG	UV20
V313253	J U0.6 FBT P28 E1SN SPG	UV48
V3132862	J MD1 C MBT P 2 E1SN 6.7	BR1 ,J2 ,J3
V313389	D ACC HLDR D5 P1 TS H10	D.76
V313392	J MD SHUNT E1AU	0305
V313491	J U0.3 FBT P 8 E1SN SPG	UV19,UV2 ,UV3
V313495	J U0.3 FBT P16 E1SN SPG	UV32
V3134971	J U0.6 FBT P32 E1AU TLP	UV11

Order number	Description	Item (if printed *italic*, only on V5635016)
V3135165	J DE P8 FBS P 9 FUMBLPGDB	J1 ,J4
V3135175	J DE P5 MBS P 9 FUMBLPGDB	J5
V313525	J EUR2C MBS P64 E1C2S 1.6	J102
C313551	J U0.3 FBT P20 E1SN SPG	UV9
C313590	J EUR2C MBS P32 E2C2S 1.6	J101
V3141981	F 0A2 PTC MULTI	F1
K324359	RLY 5V 2C BH DIP M UL	K1
V348074	RVT SNP D3 L 4.5 P	0300
V3481014	WU JUMP 0.6 5.08	W2 (only on V5635016)
V3481024	WU JUMP 0.6 7.62	W3
V362199	SCR Z7985 M 3 X 8 STZN	0200
V367600	NUT TRAD M 3 BLOCK BRNI	N1
V3685408	NUT I KFS2 M 3	0100
V5635013	UN VIDEO SWITCH CVM3000	
V568360	SOFT CVM3000 V1.00	U11
V568361	SOFT CVM3000 TIMING V1.00	U48
V568362	SOFT CVM3000 ADC V1.00	U9
V568363	SOFT CVM3000 SAD V1.00	U19
V602950	J TAB1 BT D	TP10,TP4 ,TP5 ,TP7 ,TP9
V752515	PCB C&S VII CVM3000	PCB1
V775018	COIL WH-BLA-RED-BLA Y	L2

CVM 3000

ADDENDUM : CVM 3051 ISH

List of CVM 3051 ISH diagrams and parts lists on following pages

E	EHT & Deflection (for CVM 3051 ISH) with PCB V752519	V5635098
T	CRT Socket (for CVM 3051 ISH) with PCB V752507	V5635026

For other modules, refer to the first part of the manual :

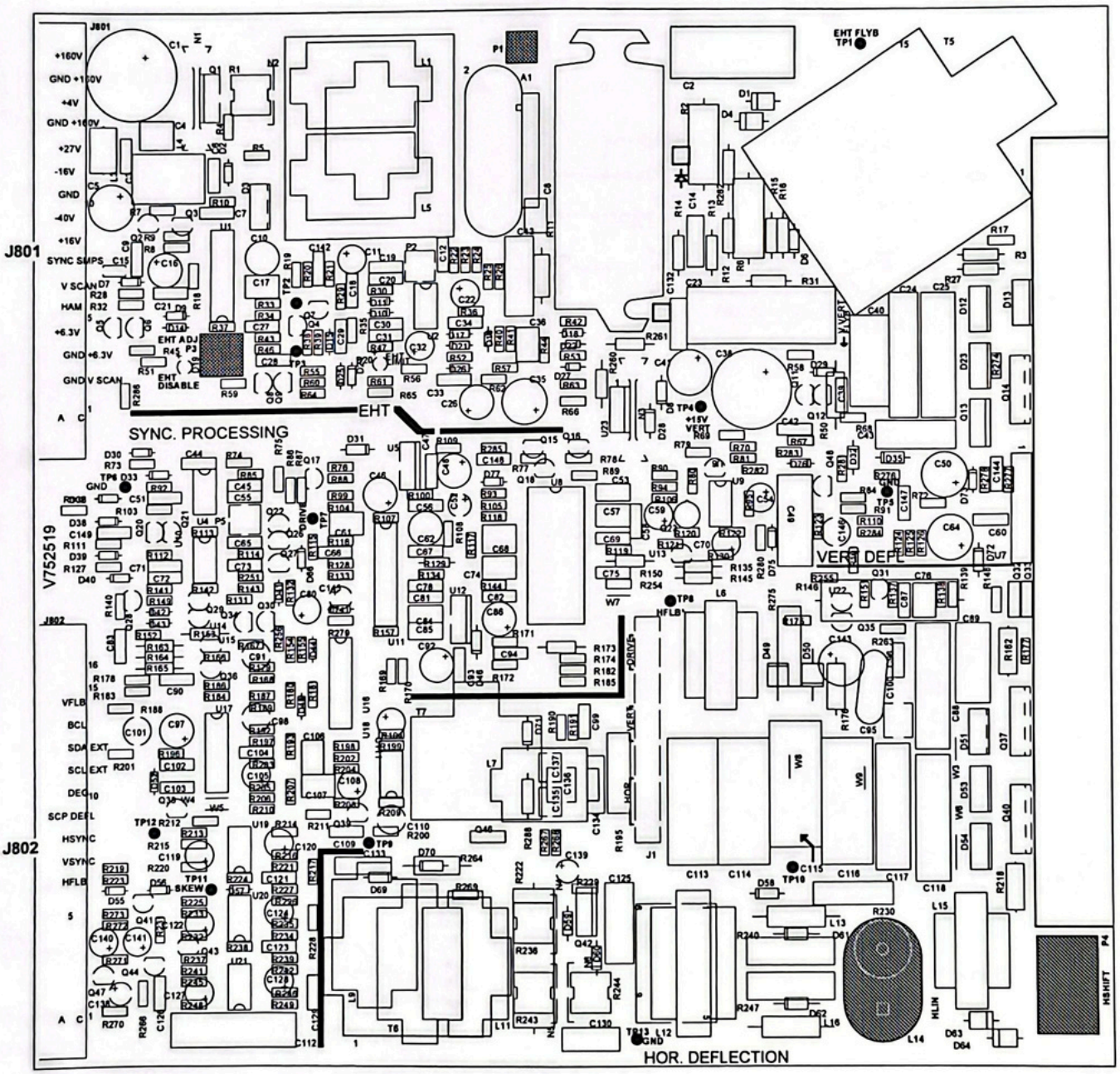
P	Switched Mode Power Supply with PCB V752509	V5635050
A	Analog Input & Decoder with PCB V752276-6&7	V5635003
C	Control & Sync with PCB V681061	V5635010/11
	Control & Sync (with SAD) with PCB V752515	V5635015/16
K	Keyboard 3051/3551	V5635071

The CVM 3051 ISH uses the following picture tube :

CRT M48KTU102X-E15	V1311721

EHT & DEFLECTION CVM 3051 ISH

ADJUST	P3 EHT ADJ.	P2 EHT LIMIT	P1 BCL	L14 HLIN	P4 HSHIFT
TP	TP6,12,11	TP2,3,7	TP9	TP13,8,4	TP10 TP1 TP5



E

EHT & DEFLECTION CVM 3051 ISH
PRINTED CIRCUIT BOARD V752519

MODIFICATIONS RESERVED 18DEC95

R	
C	
MISC.	

MODULE #	VSCAN	TP10
V5635098	+60 Vdc	750 Vp-p

MODULE #	CVM MONITOR	L14	C114	C113	C116	L15
V5635098	3051 ISH	V306447	1M 250V	2M2 250V	1M 250V	X mH

MODULE #	CVM MONITOR	R244	R222	L13	R240	L9	C96	C88	C118
V5635098	3051 ISH	6K8 7W	150E 6W	WIRE	E47 2W	X	220 pF 400V	12K 1600V	12K 1600V

HORIZONTAL COIL IMPEDANCES & CURRENTS				
MODULE #	CVM MONITOR	Lh (mH)	Rh (ohm)	Ih (A)
V5635098	3051 ISH	0.33	0.38	7.30

MODULE #	CVM MONITOR	D35	R50	R125	R126	R124
V5635098	3051 ISH	33V	56E 1W6	- ALL 0W4	1E2	2E7

VERTICAL COIL IMPEDANCES & CURRENTS				
MODULE #	CVM MONITOR	Lv (mH)	Rv (ohm)	Iv (A)
V5635098	3051 ISH	6.00	6.9	1.79

PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH ⚠ OR * HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS.
DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

HORIZONTAL DEFLECTION

VERTICAL OSCILLATOR

VERTICAL DEFLECTION

SAVE GUARD

HEATSINK

CVM3051 ISH
V5635098

EHT & DEFLECTION (VERSION 3)
PRINTED CIRCUIT BOARD V752519
SHEET 1 OF 3

E1

MODIFICATIONS RESERVED 22FEB96

R	
C	
MISC.	

EHT REGULATOR

EHT DISABLE

EHT FB

EHT FLYB

TP1

T5 V7754292

TRI BG2000-641-513

EHT TO TUBE ANODE

BLEEDER

EHT ADJ.

BEAM CURRENT LIMIT

MODULE #	CVM MONITOR	R33	R3	R27	R15	R16
V5635095	3237 IH, 3337 IH	82K	E1	-	-	E1

CRT FILAMENT SUPPLY

(CRT FILAMENT SUPPLY)

EHT LIMIT

(FROM U11 TDA 2595)

PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH ⚠ OR ✱ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS.
DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

HIGH VOLTAGE GENERATOR

V5635098

CVM 3051 ISH E2

EHT & DEFLECTION (VERSION 3) CVM 3000
PRINTED CIRCUIT BOARD V752519
SHEET 2 OF 3

MODIFICATIONS RESERVED 22FEB96

R	
C	
MISC.	

DYNAMIC FOCUS

V SCAN (with EW correction)

R273 3K3 · R272 8K2 · R271 10K · C141 22nF 50V · C140 22nF 50V · Q47 BF423 · R269 3K3 · +400Vdc · R264 68K 1W2 · Q48 BUX87 · D70 BYD33M · D71 BYD33M · R270 6K8 HD · R268 4K7 · R267 1K8 · C139 10nF 63V HD · R288 1K CC · T7 AT4043 /67A · C136 100pF 2kV · C137 470pF · C135 220pF · DYN.FOC. OUT · R266 10E · +16V · C138 10nF 63V HD · C134 500V 15nF HD

T8 AT4043 /08A · D69 BYD33M · C133 500V 15nF HD · +400Vdc · HFLB E1

TP13 HD · TP3 EHT · TP6 · TP5

J801

	GND VSCAN	P	GND VSCAN
E2	GND +6.3V	T	GND +6.3V
E2	+6.3V	T	+6.3V
	HAM	P	HAM
	V SCAN	P	V SCAN
E1	V SCAN	P	V SCAN
E1	SYNC SMPS	P	SYNC SMPS
	+16V	P	+16V
	(-40V)		
	GND	P	GND
	-16V	P	-16V
	(+27V)		
	GND +160V	P	GND +160V
E2	+4V	P	+4V
	GND +160V	P	GND +160V
E2	+160V	P	+160V

J802

E1	HFLB		HFLB
E1	VSYNC	C	VSYNC
E1	HSYNC	C	HSYNC
E1	SCP DEFL	A	SCP DEFL
	(DEG)		
E1	SCL EXT		SCL EXT
E1	SDA EXT		SDA EXT
E2	BCL	A	BCL
E1	VFLB	C	VFLB

I²C INTERFACE

+12VB432 · R132 10E · C80 10µF 63V · U16 TDA8444 · VP · VMAX · SDA · SCL · A0 · A1 · A2 · DAC7 · DAC6 · DAC5 · DAC4 · DAC3 · DAC2 · DAC1 · DAC0 · GND

SDA · SCL · R154 100E · R155 100E · DAC4 E1 (16/9)

HORIZONTAL AMPLITUDE MODULATION

+16V · D52 BAT86 · R196 10E · C102 100nF · C97 100µF 25V · C101 BIP 22µF 25V · (WIDTH) · R179 27K · R167 15K · R140 10E · C83 100nF · R152 SEE TABLE · R153 SEE TABLE · U14 TL431C · R163 1K 1% · R166 10K · R168 2K7 · E1 SET INFO · Q36 BC559C · C91 22pF BIP 25V · R187 SEE TABLE · R184 100E · U17a TL084CN · C105 10pF 63V · C104 100nF · R186 10E · -16V · R203 2K7 · U17c TL084CN · W4 · R201 100E · HAM to SMPS (DC + EW +TRAP) · R189 100E · EW + TRAP E1

HAM DC VOLTAGE 12.5 Vdc

MODULE #	CVM MONITOR	R152	R153	R187
V5635098	3051 ISH	680	3K3	-

DAC0 (TRAP)

E1 EW · R193 10E · C103 10nF · U17b TL084CN · R197 3K9 · R192 6K8

TRAP · U17d TL084CN · C58 BIP 10nF 25V

+16V · R208 10E · C108 10µF 63V · E1 VERT SAWT · C110 BIP 10µF 25V · U18 TL072 · VCC+ · VCC- · C111 10µF 63V · R200 22K · R199 10E · -16V

DAC2 (VBOW) · DAC1 (SKEW)

R249 100E · C129 100nF · R242 8K2 · R240 100E · R241 27K · R248 10E · C127 10µF 63V · C128 10µF 63V · R237 10E · U21 CA3080 · C126 220pF · R245 47K · Q44 BC549C · TP12 · TRAP · R228 10K · R239 10K · R210 1K · D57 5V1 · TRAPEZIUM

R234 100E · C123 100nF · R226 8K2 · R235 100E · R225 27K · R232 10E · C122 10µF 63V · C124 10µF 63V · U20 CA3080 · R217 10K · R227 10K · R224 10E · R233 56K · Q43 BC549C · R238 4K7 · TP11 · SKEWING

R221 100E · C121 100nF · R214 8K2 · R218 100E · R213 27K · R220 10E · C119 10µF 63V · C120 10µF 63V · U19 CA3080 · R207 10K · R206 10K · R205 10E · R215 56K · Q38 BC549C · R202 6K8 · C106 330nF · C107 330nF · R204 47K · R198 47K · R212 4K7 · U18 TL072 · R209 47K · R211 47K · C109 6.8nF · Q39 BC549C · R194 2K7 · TP9 · V BOW&SKEW E1 · VERTICAL BOWING

V5635098

CVM 3051 ISH E3

EHT & DEFLECTION (VERSION 3) CVM 3000
PRINTED CIRCUIT BOARD V752519
SHEET 3 OF 3

MODIFICATIONS RESERVED 22FEB96

PARTS LIST
EHT & DEFLECTION (for CVM 3051 ISH)
Order number of a complete module : V5635098

Order number		Description	Item
V101253		R MF H 27K J 0W5 E4	R12 ,R262
V1012998	!	R CFFH E1 K 0W5	R16 ,R3
V101500		R MF H 1E F 0W4 E3	R172,R99
V101501		R MF H 1E2 F 0W4 E3	R126
V101505		R MF H 2E7 F 0W4 E3	R124
V101512		R MF H 10E F 0W4 E3	R119,R122,R132,R140,R169,R186, R193,R196,R199,R205,R208,R220, R224,R232,R237,R248,R266,R4 , R40 ,R56 ,R63 ,R67 ,R68 ,R7 , R76 ,R8 ,R95
V101516		R MF H 22E F 0W4 E3	R123
V101518		R MF H 33E F 0W4 E3	R279
V101524		R MF H100E F 0W4 E3	R102,R133,R143,R154,R155,R177, R180,R181,R182,R184,R185,R189, R191,R201,R216,R221,R234,R235, R246,R249,R276,R277,R278,R28 , R32 ,R64 ,R86
V101528		R MF H220E F 0W4 E3	R18 ,R300
V101530		R MF H330E F 0W4 E3	R229
V101533		R MF H560E F 0W4 E3	R78
V101534		R MF H680E F 0W4 E3	R100,R152,R286,R72 ,R74
V101535		R MF H820E F 0W4 E3	R107
V101536		R MF H 1K F 0W4 E3	R131,R157,R210,R274,R285,R30 , R39 ,R45 ,R47 ,R51 ,R52 ,R84 , R91
V101537		R MF H 1K2 F 0W4 E3	R24 ,R25 ,R251,R282,R38 ,R87
V101538		R MF H 1K5 F 0W4 E3	R188,R59 ,R69
V101539		R MF H 1K8 F 0W4 E3	R130,R267
V101540		R MF H 2K2 F 0W4 E3	R103,R111,R142,R190,R219,R281, R81 ,R88 ,R9
V101541		R MF H 2K7 F 0W4 E3	R203,R77
V101542		R MF H 3K3 F 0W4 E3	R113,R153,R273
V101543		R MF H 3K9 F 0W4 E3	R269
V101544		R MF H 4K7 F 0W4 E3	R106,R109,R115,R117,R141,R144, R149,R194,R212,R231,R238,R268, R5 ,R61 ,R73 ,R79 ,R80 ,R92
V101545		R MF H 5K6 F 0W4 E3	R197
V101546		R MF H 6K8 F 0W4 E3	R110,R170,R192,R202,R270,R57
V101547		R MF H 8K2 F 0W4 E3	R10 ,R105,R214,R226,R242,R272, R70
V101548		R MF H 10K F 0W4 E3	R112,R127,R171,R19 ,R206,R207, R217,R227,R228,R239,R271,R280, R284,R36 ,R37 ,R43 ,R44 ,R55 , R60 ,R75 ,R93
V101549		R MF H 12K F 0W4 E3	R116,R175
V101550		R MF H 15K F 0W4 E3	R167,R22 ,R23 ,R263,R62 ,R90
V101551		R MF H 18K F 0W4 E3	R121
V101552		R MF H 22K F 0W4 E3	R174,R200,R89
V101553		R MF H 27K F 0W4 E3	R213,R225,R241
V101555		R MF H 39K F 0W4 E3	R283,R58
V101556		R MF H 47K F 0W4 E3	R120,R198,R204,R209,R211,R245, R53 ,R65
V101557		R MF H 56K F 0W4 E3	R215,R233
V101558		R MF H 68K F 0W4 E3	R118,R20
V101559		R MF H 82K F 0W4 E3	R104,R33
V101560		R MF H100K F 0W4 E3	R108,R128,R223,R256,R26 ,R34 , R35 ,R42 ,R94
V101561		R MF H120K F 0W4 E3	R134,R85
V101563		R MF H180K F 0W4 E3	R29
V101564		R MF H220K F 0W4 E3	R114
V101568		R MF H470K F 0W4 E3	R21
V102032		R CC H470E K 0W5	R11
V102036		R CC H 1K K 0W5	R288

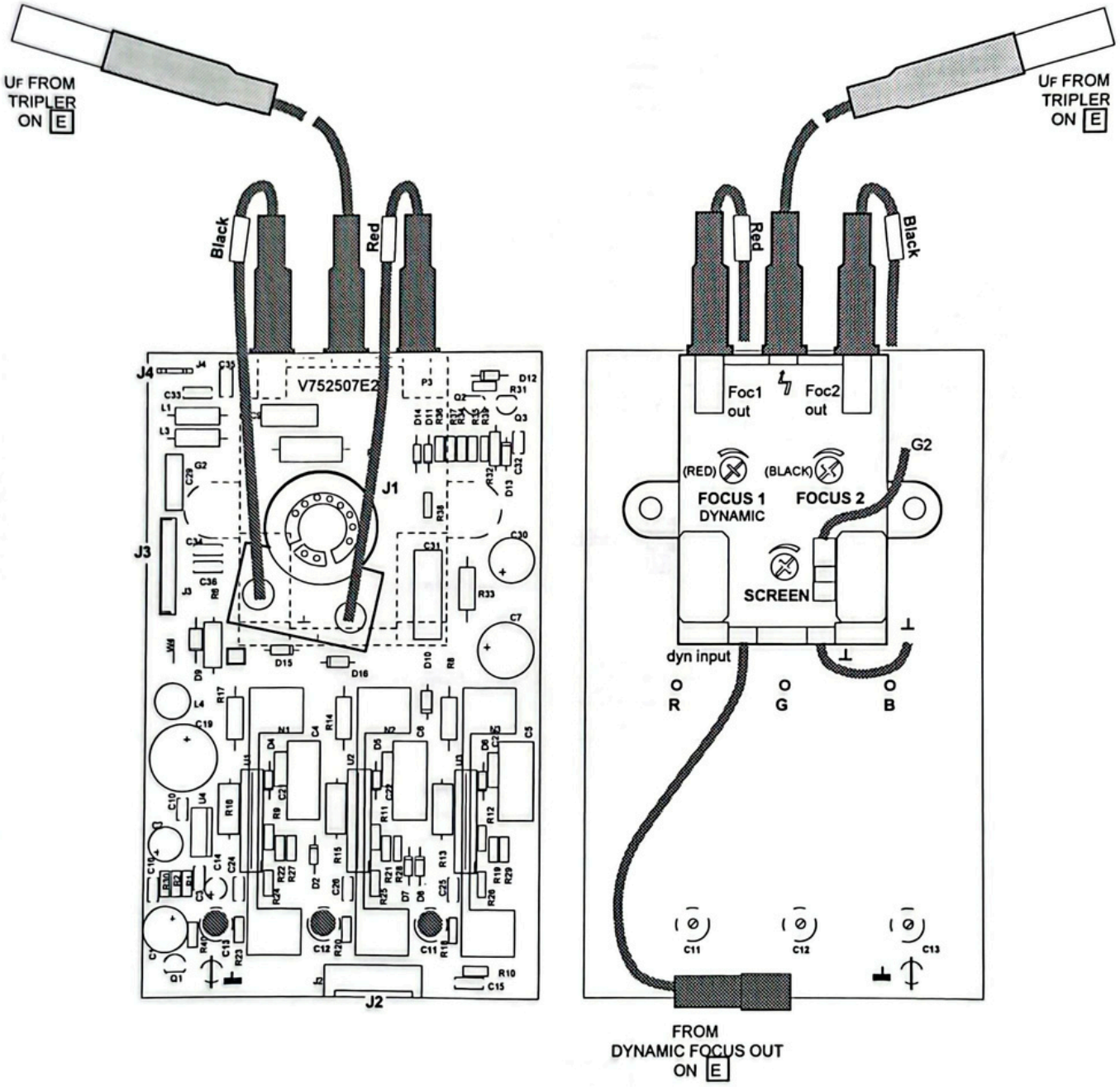
Order number		Description		Item
V102320		R MF H 47E J 3W E10		R275
V102330		R MF H330E J 3W E10		R195
V102336		R MF H 1K J 3W E10		R230
V1026006		R MF H 1K F 0W6 E4		R163,R41
V1026046		R MF H 1K1 F 0W6 E4		R145
V1026066		R MF H 1K15F 0W6 E4		R261
V1026087		R MF H 12K1 F 0W6 E4		R129
V1026336		R MF H 2K21F 0W6 E4		R150,R173
V1026507		R MF H 33K2 F 0W6 E4		R13 ,R14
V1026656		R MF H 4K75F 0W6 E4		R260
V1026827		R MF H 71K5 F 0W6 E4		R46
V1026925		R MF H909E F 0W6 E4		R135
V102921		R MF H 56E J 2W E7		R50
V102958		R MF H 68K J 2W E7		R264
V103326		R MO H150E J 4W		R222
V103598		R WW R E47K 2W E4		R240
V104215		R WW V 8E2 K 7W		R1
V104250		R WW V 6K8 K 7W		R244
K1046701		R HV H 4M7 J 1W 10000		R2 ,R6
V106518		R TWW V100E K 3W D20NC		P4
V106732	*	R TCE H 50K K 0W5 S10TS		P3
V107004		R TCE H200E K 0W5 S 7TS		P1
V107010	*	R TCE H 20K K 0W5 S 7TS		P2
V107013		R TCE H100K K 0W5 S 7TS		P5
V1113885		C EL RA 47M M100E2 105		C64
V1114004		C EL RA 47M M250E3 105		C1
V111471		C EL RA1000M M 25E3 105		C38
V111475		C EL RA 2M2M400E2 105		C143
K1114777		C EL RA 100M M 25E2 105		C16 ,C26 ,C46 ,C48 ,C86 ,C92 , C97
V111478		C EL RA 220M M 25E2 105		C41 ,C50
V1114952		C EL RA 22M M 50E1 105		C11
V1114955		C EL RA 22M M 50E2 105		C140,C141
V111497		C EL RA 100M M 63E2 105		C5
V1115319		C EL RA 10M M 50E2 105		C105,C108,C111,C119,C120,C122, C124,C127,C128,C138,C139,C145, C22 ,C32 ,C54 ,C59 ,C70 ,C80
V1115509		C EL RA 4M7M 63E2 105		C52
V111679		C EL BRA 10M M 25E2 85		C110,C146,C98
V111681		C EL BRA 22M M 25E2 85		C101,C91
V1120902		C CE DI 100P K202E3 HV		C100,C136
V1127510		C X7R MU 10N K 50E2 125		C15
V1127740		C X7R MU 100N K100E2 125		C102,C104,C12 ,C121,C123,C129, C142,C21 ,C3 ,C30 ,C31 ,C33 , C34 ,C39 ,C42 ,C47 ,C51 ,C58 , C60 ,C65 ,C7 ,C75 ,C78 ,C82 , C9 ,C93 ,C94
V112817		C CE DI 220P M400E2		C96
C112821		C CE DI 470P M400E2		C135,C137
V112833		C CE DI 4N7S400E3		C132,C14
C112835		C CE DI 6N8S400E3		C130
C112837		C CE DI 10N S400E3		C133,C134
V1140502		C POMERA 470N K100E6 85		C49
V114080		C POMERA 10N K 63E2 85		C103,C148,C18 ,C55 ,C56 ,C73 , C81
V114081		C POMERA 15N K 63E2 85		C99
V114082		C POMERA 22N K 63E2 85		C19 ,C44 ,C66 ,C72
V114085		C POMERA 56N K 63E2 85		C69
V114088		C POMERA 100N K 63E2 85		C29 ,C45 ,C6 ,C67 ,C71 ,C83
V114089		C POMERA 150N K 63E2 85		C147
V114090		C POMERA 220N K 63E2 85		C53 ,C8 ,C84 ,C85
V114091		C POMERA 330N K 63E2 85		C106,C107
V114092		C POMERA 470N K 63E2 85		C17 ,C57 ,C61 ,C74
V114094		C POMERA 680N M 50E2 85		C36
V114096		C POMERA 1M K 50E2 85		C4
V114480		C PO RA 1N M100E2 85		C20
V1144801		C PO RA 1N J100E2 85		C27
V114484		C PO RA 4N7M100E2 85		C144
V114486		C PO RA 6N8M100E2 85		C109
C114636		C PPMERA 47N M162E11 HV		C23

Order number	Description	Item
V115006	C PPMERA 12N J102E9 HV	C118,C88
V115008	C PPMERA 1N5J202E9 HV	C25
V1150125	C PPMERA 5N6J162E9 HV	C24
V1150221	C PPMERA 18N J400E6	C89
V1150642	C PPMERA 100N K250E6	C125,C13 ,C43
V1150682	C PPMERA 220N K250E6	C40
V1150722	C PPMERA 470N K250E9	C112
V1150761	C PPMERA 1M M160E9	C114,C116,C2
V1150802	C PPMERA 2M2K250E11	C113
V115167	C PP RA 4N7J 63E2 100	C68
V115181	C PC RA 220P K160E2 100	C126,C28
V115182	C PC RA 330P K160E2 100	C149
V116305	C PP RA 10N H 63E2 100	C10
V116315	C PP RA 4N7 H160E2 85	C62
V131411	Q BC549C N SS TO92	Q16 ,Q17 ,Q18 ,Q20 ,Q21 ,Q28 , Q38 ,Q39 ,Q41 ,Q43 ,Q44 ,Q48 , Q9
V1314182	Q BC559C P SS TO92	Q4 ,Q8
V131426	Q BC337 N SS TO92	Q12 ,Q15 ,Q2 ,Q22 ,Q34 ,Q5 , Q7
V1315041	D BAT41 SCH DO35	D77
V1315046	D Y BAT86 050200 DO34	D22 ,D27 ,D52
V1316211	D S 1N4148 075150 DO35	D10 ,D11 ,D24 ,D29 ,D41 ,D7 , D73 ,D74
V131627	D S BAV21 200250 DO35	D100,D101,D14 ,D15 ,D21 ,D26 , D30 ,D33 ,D36 ,D38 ,D39 ,D40 , D42 ,D43 ,D55 ,D56 ,D75 ,D76 , D9
V131662	D LED D3 T RD	D19 ,D20
V131716	D ZEN 5V1 0W5 C DO35	D17 ,D44 ,D48 ,D57
V1317205	D REF 6V2 0.005% DO34	D16
V131744	D ZEN 5V6 0W5 C DO35	D18
V131758	D ZEN 15V 0W5 C DO35	D25
V131762	D ZEN 16V 0W5 C DO35	D2
V131780	D ZEN 33V 1W3 C DO41	D35
V131781	D ZEN 27V 1W3 C DO41	D32
V1319035	D R BYD33M 1021A3 SOD81	D28 ,D31 ,D46 ,D58 ,D59 ,D6 , D60 ,D69 ,D70 ,D71 ,D72
V131909	D Y 04510A TO220	D23
V131930	D Y 0301A0 DO41	D61
V1319495	D BYV29-300 UFSR TO220	D12
V131953	D MUR880E UFSR TO220	D3
V131954	D BYV27-200 R SOD57	D1 ,D4 ,D63 ,D64
R131958	D R BY329 12208A TO220C	D13
V132194	U 072 TL DIP8 P	U18 ,U2 ,U9
V132501	Q BC327-25 P SS TO92	Q11 ,Q26 ,Q27 ,Q3 ,Q30 ,Q6
V132517	Q BUX84 N P TO220	Q42
V132552	Q BF423 P SS TO92	Q47
V132599	Q BU2525A N P SOT93	Q14
V132610	Q IRF740 FN P TO220	Q1
V132611	Q IRF540 FN P TO220	Q13
V132618	Q BSS101 FN SS TO92	Q29
V132623	Q BSV81 FN SS TO72	Q23
V132707	U 3080 CA DIP8 P	U19 ,U20 ,U21
V132761	U 8432 TDA DIP24 P	U8
B1329351	Q BUX87P N P SOT82	Q46
B132995	Q BU2520D N P SOT93	Q37
V1330145	HTSNK ACC TO18 MNTNG PAD	Q.23
R133074	HTSNK ACC INSULATOR	0110,0210
V133089	HTSNK TO220 STD 25.0K/W	N1 ,N3
B133308	U 8351 TDA SIP9 P	U7
C134002	U 7812 TO220 P	U12 ,U5
V134018	U 431C TL TO92 P	U13 ,U14 ,U6
B134062	U 2941A MIC TO220/5P	U23
V1341091	U 555 TLC DIP8 P	U10 ,U4
V134144	U 064C TL DIP14 P	U17
V137259	U 8444 TDA DIP16 P	U16
V1372961	U 494 TL DIP16 I	U1
V137719	U 2595 TDA DIP18 P	U11
V302132	CORE TUBE 6 / 3 X10	L3

Order number		Description	Item
V306180		CH E-W AT4043/08A	T6
V306434		COIL E/W INJECT 4043/60	L6
V306445		COIL DRIVER CU10 2.5MH	L4
V306447		CL LIN 4034/05A	L14
V306451		T FOCUS AT4043/67A	T7
V306727		T DVR 4043/87	L12
V306729		T SMP AT3010/110LL	L1
V3110631		D ACC HLDR D3 P1 T H 4.8	D...
C313220		R ACC HLDR H10 WW V	N2 ,N6
C313590		J EUR2C MBS P32 E2C2S 1.6	J801,J802
C313613		J LV MBT P 6 R4M8 NP	J1
K3153155		J RVT MBT D 2.3L12.7	0400
V348000		CBLA TIE B L 98 W2.5	0500
V348073		CBLA CLP D10.2/12.7 TW	0590
V3481014		WU JUMP 0.6 5.08	D51 ,D54 ,Q40
V3481024		WU JUMP 0.6 7.62	D66 ,R254,W3 ,W4 ,W8
V3481044		WU JUMP 0.6 12.7	L.3
V3481048		WU JUMP 0.51 12.7 ISO	L7
V3481084		WU JUMP 0.6 22.86	L13
Z349930		CD HV 1K AWG20ST MNL 260	0600
V3620226		SCR D84 M 3 X 8 SS	0101,0161
V3621212		SCR Z7985 M 3 X 6 STZN	0211
V362199		SCR Z7985 M 3 X 8 STZN	A.1 ,0311
V366102		NUT D934 M 3 STZN	0310
V367401		RVT FULL_R2.4C 7.9 AL	0410
V367600		NUT TRAD M 3 BLOCK BRNI	0160
V3685408		I NUT ST M3 PCB SS	A..1
V5635098A		UN DEFL IHS CVM3051	
V601665		HTSNK CST DEFL CVM3000	0100
V601667		FIX HEATS DEFL CVM3000	0102
V601774		HTSNK CST FLYB CVM3600	0200
V602950		J TESTPIN BT D	TP1 ,TP10,TP11,TP12,TP13,TP2 , TP3 ,TP4 ,TP5 ,TP6 ,TP7 ,TP8 , TP9
V603569		HTSNK CST SPG 3X3.1	0220
V6035692		HTSNK CST SPG 2X3.1	0120
V752519		PCB DEFL ISH CVM3000	PCB1
V7754292	!	T EHT V2 CVM3000	T5 (EHT Transformer)
V775433		T ICD200 HOR SHIFT	L15
V776919	*	UN EHT CVM3000	A1+A2 (Tripler + Bleeder)
R804831		HTSNK CST SPG 1X3.1 LONG	0121

CRT SOCKET (CVM 3051 ISH)

ADJUST	C11 C12 C13 FOCUS1 / SCREEN / FOCUS2
TP	R G ⊥ B



TISH

CRT SOCKET CVM 3051 ISH
PRINTED CIRCUIT BOARD V752507
FOR MODULE V5635026
MODIFICATIONS RESERVED 01FEB96

R	
C	
MISC.	

DYNAMIC FOCUS

V SCAN (with EW correction)

+400Vdc

R273 3K3 · R272 8K2 · R271 10K · C141 22nF 50V · C140 22nF 50V · Q47 BF423 · R269 3K9 · Q46 BUX87 · R264 68K 1W2 · D70 BYD33M · D71 BYD33M · R270 6K8 · R268 4K7 · R267 1K8 · C139 10nF 63V · R206 10E · C138 10nF 63V · +16V · HD

T7 AT4043 /67A · C136 100pF 2kV · C137 470pF · C135 220pF · DYN.FOC. OUT

R288 1K CC

C134 500V 15nF HD

T8 AT4043 /68A · D69 BYD33M · C133 500V 15nF HD · +400Vdc · HFLB E1

TP13 HD · TP3 EHT · TP6 · TP5

J801

	GND VSCAN	P	GND VSCAN	
E2	GND +6.3V	T	GND +6.3V	
E2	+6.3V	T	+6.3V	
	HAM	P	HAM	
E1	V SCAN	P	V SCAN	
E1	SYNC SMPS	P	SYNC SMPS	
	+16V	P	+16V	
	(-40V)			
	GND	P	GND	
	-16V	P	-16V	
	(+27V)			
	GND +160V	P	GND +160V	
E2	+4V	P	+4V	
	GND +160V	P	GND +160V	
E2	+160V	P	+160V	

I²C INTERFACE

+12V8432 · R132 10E · C80 10nF 63V · U16 TDA8444 · R154 100E · R155 100E · SDA · SCL · DAC4 (16/9) E1

HORIZONTAL AMPLITUDE MODULATION

C101 22nF BIP 25V · R196 10E · D52 BA886 · C102 100nF · C97 100nF 25V · U17a TL064CN · R203 2K7 · U17c TL064CN · W4 · R201 100E · HAM to SMPS (DC + EW +TRAP) · R189 100E · EW + TRAP E1

HAM DC VOLTAGE 12.5 Vdc

(WIDTH) · R179 27K · R140 10E · C83 100nF · R152 SEE TABLE · R153 SEE TABLE · U14 TL431C · R183 1K 1% · R167 15K · Q36 BC559C · R166 10K · R168 2K7 · E1 SET INFO · C91 22nF BIP 25V · R184 100E · R187 SEE TABLE · C105 10nF 63V · C104 100nF · R186 10E · -16V

MODULE #	CVM MONITOR	R152	R153	R187
V5635098	3051 ISH	680	3K3	-

J802

E1	HFLB			HFLB
E1	VSYNC	C		VSYNC
E1	HSYNC	C		HSYNC
E1	SCP DEFL	A		SCP DEFL
	(DEG)			
E1	SCL EXT			SCL EXT
E1	SDA EXT			SDA EXT
E2	BCL	A		BCL
E1	VFLB	C		VFLB

DAC0 (TRAP) · R208 10E · C108 10nF 63V · E1 VERT SAWT · C110 10nF BIP 25V · U18 TL072 · C111 10nF 63V · R200 22K · R199 10E · R249 100E · C129 100nF · R242 8K2 · R246 100E · R228 10K · R239 10K · R210 1K · DS7 5V1

DAC2 (VBOW) · DAC1 (SKEW)

R241 27K · R248 10E · C127 10nF 63V · C129 10nF 63V · U21 CA3080 · C128 220pF · R245 47K · R237 10E · Q44 BC549C · TP12 · TRAP · R231 4K7 · TRAPEZIUM

R234 100E · C123 100nF · R226 8K2 · R235 100E · R225 27K · R232 10E · C122 10nF 63V · C124 10nF 63V · U20 CA3080 · R217 10K · R227 10K · R224 10E · R233 56K · Q43 BC549C · R238 4K7 · TP11 · SKEWING

R207 10K · R208 10K · R221 100E · C121 100nF · R214 8K2 · R210 100E · R213 27K · R220 10E · C119 10nF 63V · C120 10nF 63V · U19 CA3080 · R205 10E · R215 56K · Q38 BC549C · R212 4K7 · R232 6K8 · C106 330nF · C107 330nF · R204 47K · R198 47K · U18 TL072 · R209 47K · R211 47K · C109 6.8nF · Q39 BC549C · R194 2K7 · TP9 · V BOW&SKEW E1 · VERTICAL BOWING

R103 10E · C103 10nF · U17b TL064CN · R197 3K9 · R192 6K8 · C98 10nF BIP 25V · U17d TL064CN · TRAP

V5635098

CVM 3051 ISH E3

EHT & DEFLECTION (VERSION 3) CVM 3000
PRINTED CIRCUIT BOARD V752519
SHEET 3 OF 3

MODIFICATIONS RESERVED 22FEB96

PARTS LIST
CRT SOCKET FOR CVM 3051 ISH
Order number of a complete modules : V5635026

Order number	Description	Item
V101284	R MF H 10M J 0W5 E4	R32
V101512	R MF H 10E F 0W4 E3	R40
V101524	R MF H100E F 0W4 E3	R35 ,R36
V101530	R MF H330E F 0W4 E3	R27 ,R28 ,R29
V101534	R MF H680E F 0W4 E3	R37 ,R38
V101535	R MF H820E F 0W4 E3	R1
V101536	R MF H 1K F 0W4 E3	R11 ,R12 ,R9
V101537	R MF H 1K2 F 0W4 E3	R18 ,R20 ,R23
V101538	R MF H 1K5 F 0W4 E3	R10 ,R19 ,R21 ,R22
V101539	R MF H 1K8 F 0W4 E3	R24 ,R25 ,R26
V101546	R MF H 6K8 F 0W4 E3	R31
V101550	R MF H 15K F 0W4 E3	R30
V101559	R MF H 82K F 0W4 E3	R2
V101560	R MF H100K F 0W4 E3	R39
V101570	R MF H680K F 0W4 E3	R34
V102024	R CC H100E K 0W5	R14 ,R17 ,R8
V102041	R CC H 2K7 K 0W5	R33
V102148	R CC H 10K K 1W	R7
V102916	R MF H 22E J 2W E7	R6
V102956	R MF H 47K J 2W E7	R13 ,R15 ,R16
V107621	R THV V 50M L 2W4 10000	P3
V1114123	C EL RA 4M7M250E2 105	C30
V1114169	C EL RA 10M M350E2 105	C7
V1114689	C EL RA 470M M 16E2 105	C1
K1114777	C EL RA 100M M 25E2 105	C2
V1114799	C EL RA 470M M 25E2 105	C19
V1115319	C EL RA 10M M 50E2 105	C14
V1117581	C CE DI 10N M102E3 HV	C9
V112235	C NP0 MI 27P G100E2	C15
V1127830	C X7R MU 100N K 50E2 125	C10 ,C16 ,C24 ,C25 ,C26 ,C3 , C32
C112825	C CE DI 1N S400E2	C33 ,C34 ,C35 ,C36
C112837	C CE DI 10N S400E3	C29
V114042	C POMERA 100N K250E6 85	C31
V114046	C POMERA 220N K250E6 85	C4 ,C5 ,C6
V114480	C PO RA 1N M100E2 85	C21 ,C22 ,C23
V117009	C TH 1.8-22P 100	C11 ,C12 ,C13
V1314182	Q BC559C P SS TO92	Q1
V1316211	D S 1N4148 075150 DO35	D2 ,D8
V131627	D S BAV21 200250 DO35	D4 ,D5 ,D6
C131646	D R 1N4007 10201A DO41	D9
V131725	D ZEN 24V 2W5 C SOD81	D15
V131742	D ZEN 6V8 0W5 C DO35	D11
V131743	D ZEN 8V2 0W5 C DO35	D7
V131744	D ZEN 5V6 0W5 C DO35	D14
V131774	D ZEN 33V 0W5 C DO35	D12
V1319035	D R BYD33M 1021A3 SOD81	D10 ,D13 ,D16
V132516	Q BF422 N SS TO92	Q2 ,Q3
V1330921	HTSNK STD 8.8K/W	N1 ,N2 ,N3
C134002	U 7812 TO220 P	U4
V137793	U 6111 TDA SIP9 P	U1 ,U2 ,U3
V3060492	CH RA NS 100 UH 0A91	L4
K306180	CH AX BEADS ON WIRE	L1 ,L3
V311044	J CRT FBT B10-304 SKT	J1
V3137070	J MT MBT P 7 R1 FL BK	J2
V3137820	J CT MBT P10 M2SN	J3
V315302	J PIN TESTEYE	0200
V315319	J TAB1 MBT H 6.3S0.8	J4
Z34112107	WU HV 1K AWG20 SO GY 70	0120
Z3440506	CD HV20K 22-ST POW$F/M135	0140
V348000	CBLA TIE B L 98 W2.5	0150
C348070	CBLA CLP D 9.5	0010
V3481024	WU JUMP 0.6 7.62	W4 ,0160
Z3496623	CD HV20K 20-SO SCK BK 200	0100

Order number	Description	Item
Z3496624	CD HV20K 20-SO SCK RD 200	0110
Z349931	CD HV 1K AWG20ST MNL 140	0130
V3621212	SCR Z7985 M 3 X 6 STZN	0040,0060
V362199	SCR Z7985 M 3 X 8 STZN	0080
V366102	NUT D934 M 3 STZN	0050
V3685408	I NUT ST M3 PCB SS	0030
V3685433	I NUT ST M3 -05 PCB ST	0070
V5635026A	UN CRT SOCK CVM3051 ISH	
V752507	PCB CRT SOCK ISH CVM3051	PCB1

Addendum to the CVM 3000 Technical Manual Version 2

New EHT and Deflection Board, PCB number V752519E1

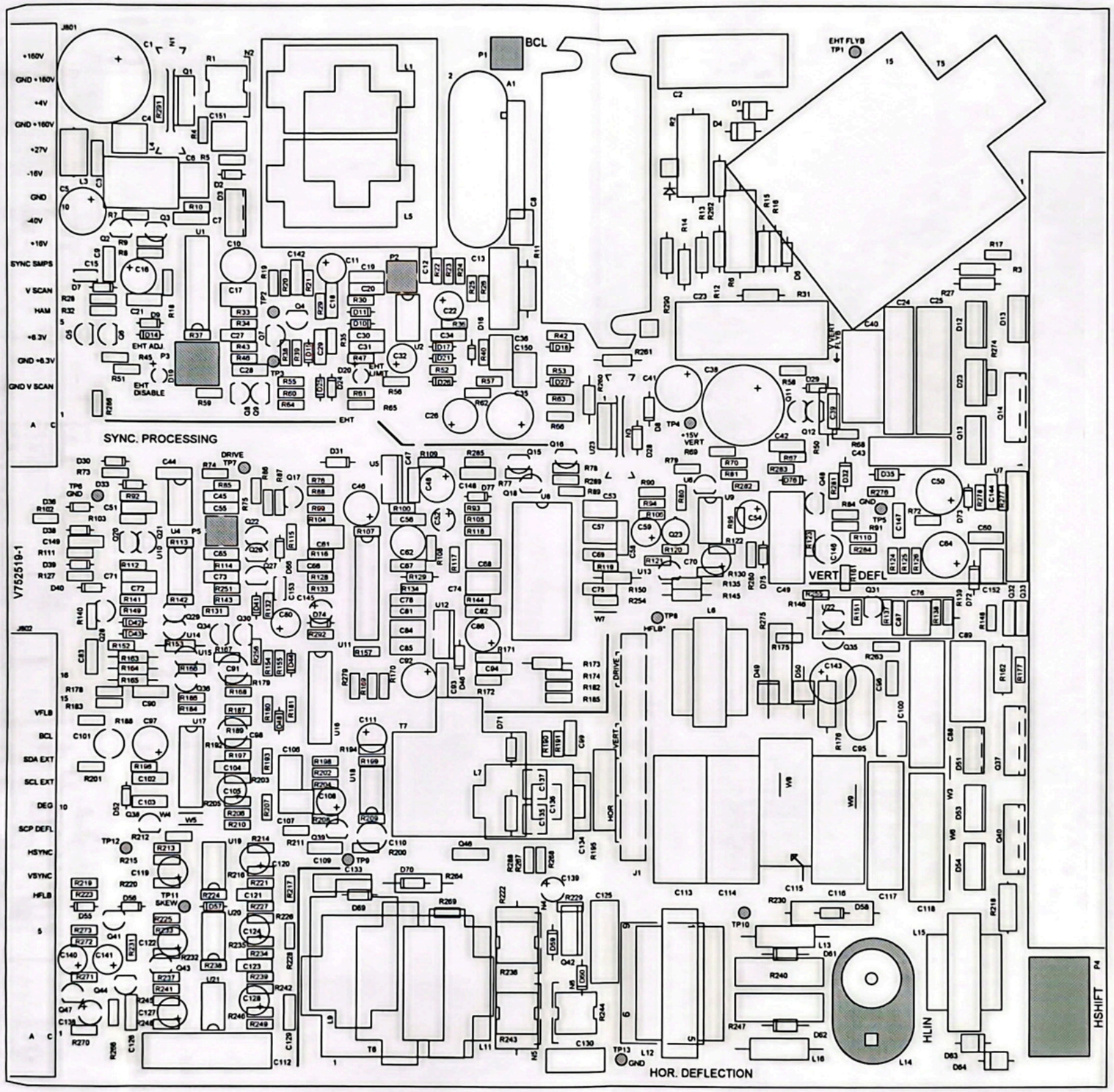
The PCB is identical for all CVM 3000 monitors, but some components are different (see tables on diagrams).

The diagrams are grouped as follows:

Monitors	V56 Board Number(s)
CVM 3X37/51, except CVM 3051 ISH	V5635090/91/92/93/94/95
CVM 3653/70	V5635096/97
CVM 3051 ISH	V5635098

The board layout is identical for all boards.

Parts Lists are not yet available.



V5635090 CVM 3037 IH, CVM 3137 IH
V5635091 CVM 3537 PS, CVM 3637 PS
V5635092 CVM 3051 IM
V5635093 CVM 3551 PS
V5635094 CVM 3051 IH
V5635095 CVM 3237 ISH, CVM 3337 ISH
V5635096 CVM 3653 PS
V5635097 CVM 3670 PS
V5635098 CVM 3051 ISH

PRODUCT SAFETY NOTICE

COMPONENTS MARKED WITH △ OR ✻ HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE SERVICE SAFETY PRECAUTIONS.
DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
LAYOUT
MODIFICATIONS RESERVED MAY 97

MODULE #	CVM MONITOR	L14	C114	C113	C116	L15
V5635090	3037 IH, 3137 IH	V7753135	-	1M2 250V	-	V775431
V5635091	3537 PS, 3637 PS	V306413	-	820N 250V	-	V774315
V5635092	3051 IM	V7753135	-	1M2 250V	-	V775431
V5635093	3551 PS	V306446	-	910N 250V	-	V775430
V5635094	3051 IH	V306447	1M 160V	1M 160V	-	V775430
V5635095	3237 ISH, 3337 ISH	V306409	1M 160V	3M3 160V	1M 160V	V6710051

MODULE #	CVM MONITOR	R244	R222	L13	R240	L9	C96	C88	C118
V5635090	3037 IH, 3137 IH	2K7 7W	1K 6W	3µH	4E7 2W	AT4043/65	470P 400V	2N2 1600V	4N7 1600V
V5635091	3537 PS, 3637 PS	2K7 7W	1K 6W	3µH	6E8 2W	AT4043/65	470P 400V	2N2 1600V	2N2 1600V
V5635092	3051 IM	2K7 7W	1K 6W	3µH	2E2 2W	AT4043/65	470P 400V	2N2 1600V	4N7 1600V
V5635093	3551 PS	2K7 7W	1K 6W	3µH	4E7 2W	AT4043/65	470P 400V	2N2 1600V	3N3 1600V
V5635094	3051 IH	2K7 7W	330E 4W	3µH	2E2 2W	AT4043/65	220P 400V	2N2 1600V	8N2 1600V
V5635095	3237 ISH, 3337 ISH	6K8 7W	150E 4W	WIRE	E47 2W	WIRE	220P 400V	8N2 1600V	10N 1000V

MODULE #	CVM MONITOR	R50	R125	R126	R124
V5635090	3037 IH, 3137 IH	1K 3W	3E3	18E	3E3
V5635091	3537 PS, 3637 PS	1K 3W	3E3	18E	3E3
V5635092	3051 IM	1K 3W	2E7	-	2E7
V5635093	3551 PS	1K 3W	3E3	4E7	4E7
V5635094	3051 IH	1K 3W	3E3	-	3E3
V5635095	3237 ISH, 3337 ISH	56E 2W	1E2	6E8	3E9
				0W4	

VERTICAL OSCILLATOR

ADJUST P5 FOR 47 Hz

HOR. DEFLECTION

S-CORRECTION CAPACITORS

DAMPING

VERT. DEFLECTION

VERTICAL SAFEGUARD

HORIZONTAL SYNC PROCESSING

16 / 9 - SWITCH

CVM 3X37/51 except CVM 3051 ISH
V5635090/91/92/93/94/95

PRODUCT SAFETY NOTICE

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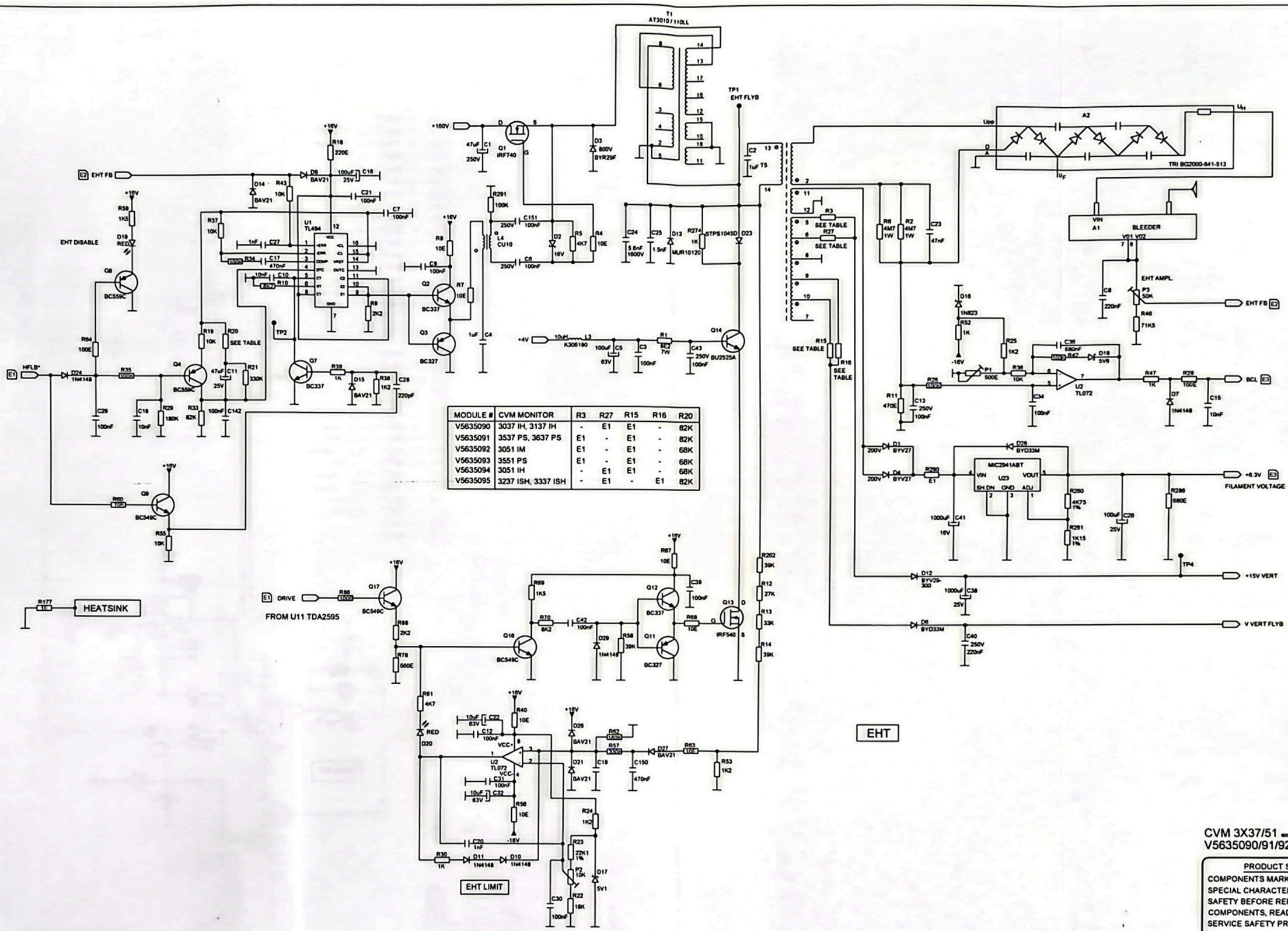
E1

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 1 OF 3
MODIFICATIONS RESERVED MAY 97



MODULE #	CVM MONITOR	R3	R27	R15	R16	R20
V5635090	3037 IH, 3137 IH	-	E1	E1	-	82K
V5635091	3537 PS, 3637 PS	E1	-	E1	-	82K
V5635092	3051 IM	E1	-	E1	-	68K
V5635093	3551 PS	E1	-	E1	-	68K
V5635094	3051 IH	-	E1	E1	-	68K
V5635095	3237 ISH, 3337 ISH	-	E1	-	E1	82K

CVM 3X37/51 except CVM 3051 ISH
V5635090/91/92/93/94/95

PRODUCT SAFETY NOTICE

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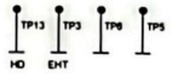
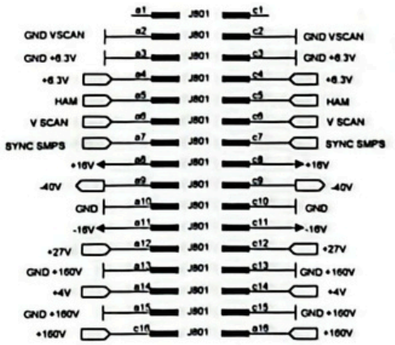
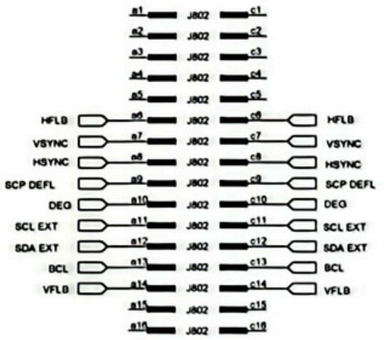
E2

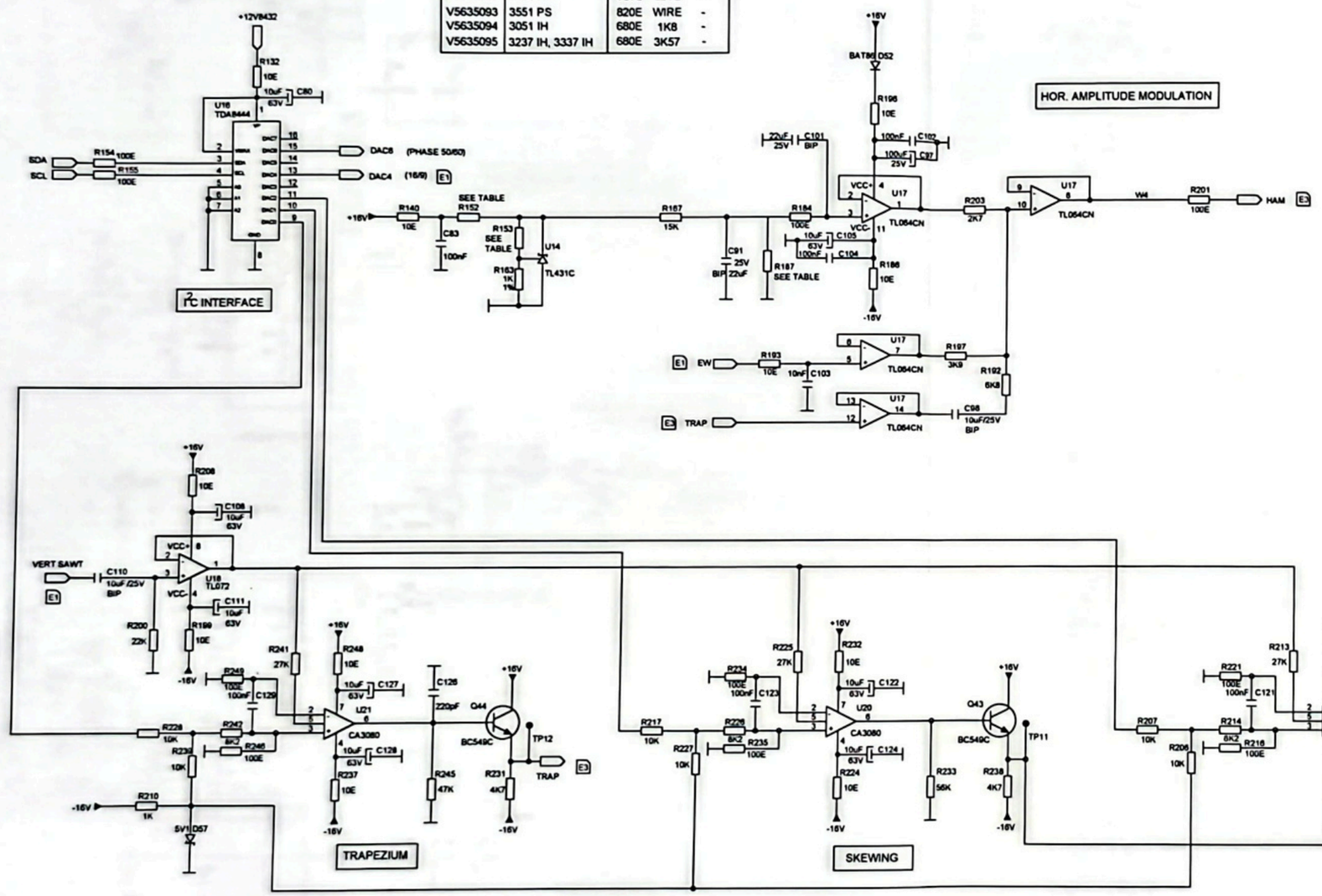
EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 2 OF 3
MODIFICATIONS RESERVED M AY 97

MODULE #	CVM MONITOR	R152	R153	R187
V5635090	3037 IH, 3137 IH	1K	WIRE	-
V5635091	3537 PS, 3637 PS	1K	WIRE	WIRE
V5635092	3051 IM	820E	220E	-
V5635093	3551 PS	820E	WIRE	-
V5635094	3051 IH	680E	1K8	-
V5635095	3237 IH, 3337 IH	680E	3K57	-









CVM 3X37/51 except CVM 3051 ISH
V5635090/91/92/93/94/95

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E3

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V7525191
SHEET 3 OF 3
MODIFICATIONS RESERVED MAY 97

Module #	CVM Monitor	C117	R137	C114	C113
V5635096	CVM 3653 PS	10nF 1000V	15K	150 nF 250V	Z20 nF 250V
V5635097	CVM 3670 PS	12nF 1000V	12K	-	560 nF 250V

Module #	CVM Monitor	R240	R247
V5635096	CVM 3653 PS	1E 2W	1E 2W
V5635097	CVM 3670 PS	E47 2W	E47 2W

VERTICAL OSCILLATOR

ADJUST P5 FOR 47 Hz

VERTICAL DEFLECTION

HORIZONTAL DEFLECTION

DYNAMIC S-CORRECTION

EW & TRAP AMPLIFIER

VERTICAL SAFEGUARD

HORIZONTAL SYNC PROCESSING

16 / 9 SWITCH

HOR. DEFL. COILS

VERT. DEFL. COILS

TO TDA2595 (HIGH = PROT)

CVM 3653/70
V5635096/97

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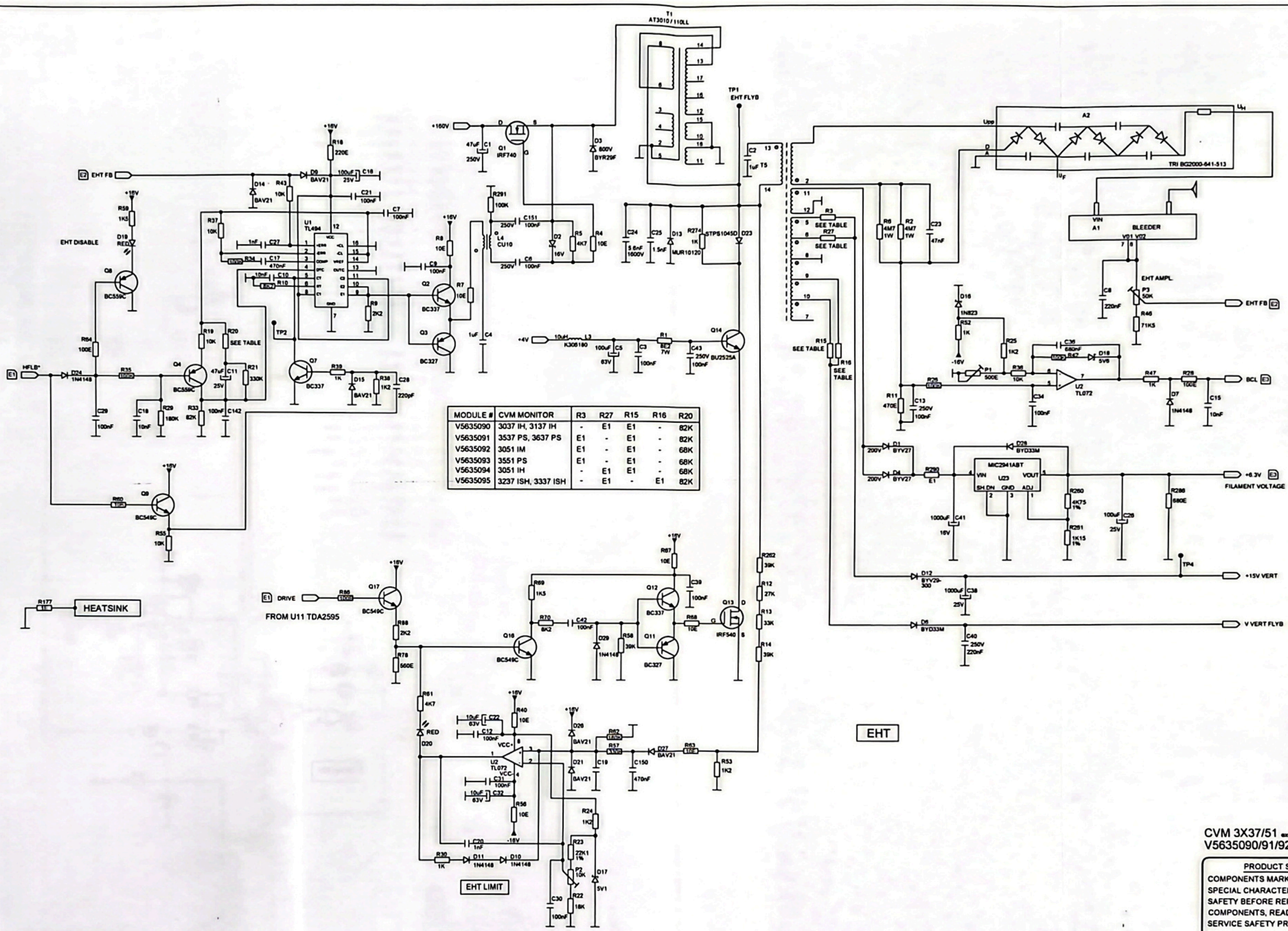
EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 1 OF 3
MODIFICATIONS RESERVED MAY 97

E1



MODULE #	CVM MONITOR	R3	R27	R15	R16	R20
V5635090	3037 IH, 3137 IH	-	E1	E1	-	82K
V5635091	3537 PS, 3637 PS	E1	-	E1	-	82K
V5635092	3051 IM	E1	-	E1	-	68K
V5635093	3551 PS	E1	-	E1	-	68K
V5635094	3051 IH	-	E1	E1	-	68K
V5635095	3237 ISH, 3337 ISH	-	E1	-	E1	82K

CVM 3X37/51 except CVM 3051 ISH
V5635090/91/92/93/94/95

PRODUCT SAFETY NOTICE

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E2

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 2 OF 3
MODIFICATIONS RESERVED M AY 97

I²C INTERFACE

Module #	CVM Monitor	R184	R179
V5635096	CVM 3653 PS	2K21	22K
V5635097	CVM 3670 PS	3K01	18K

HOR. AMPLITUDE MODULATION

TRAPEZIUM

SKEWING

VBOWING

CVM 3653/70
V5635096/97

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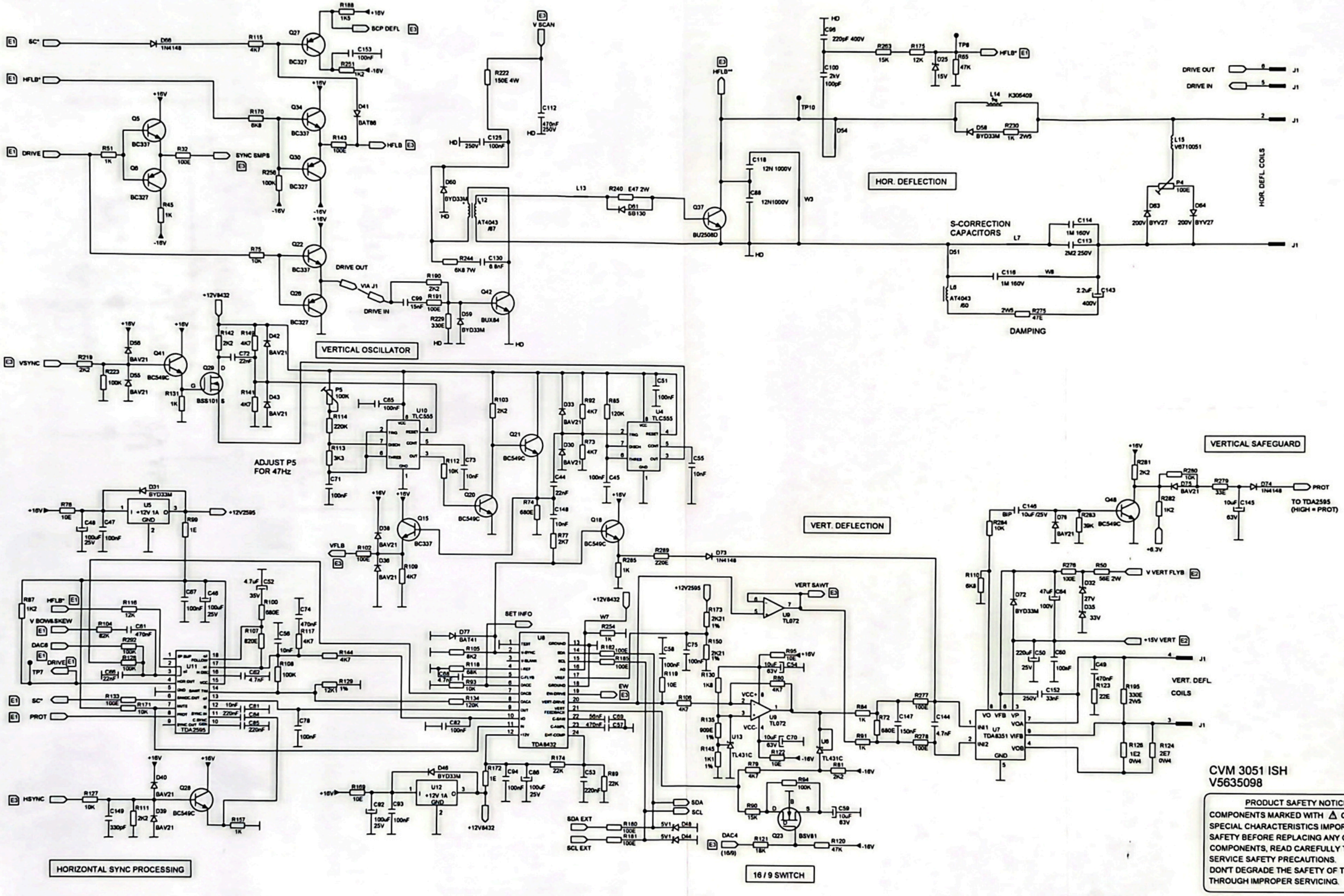
E3
EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V7525191
SHEET 3 OF 3
MODIFICATIONS RESERVED MAY 97



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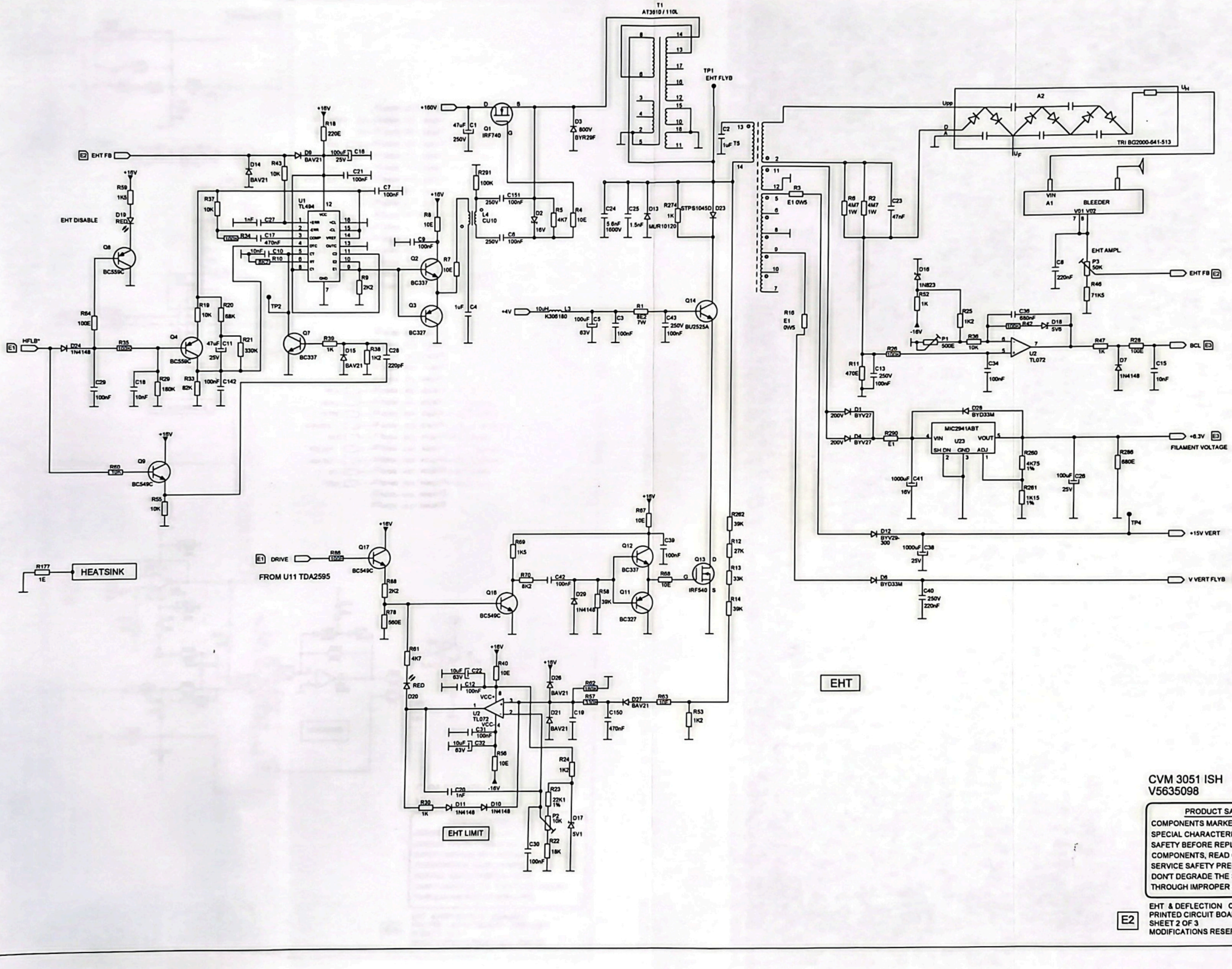
E1

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 1 OF 3
MODIFICATIONS RESERVED MAY 97



CVM 3051 ISH
V5635098

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E2

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 2 OF 3
MODIFICATIONS RESERVED MAY 97

DYNAMIC FOCUS

V SCAN WITH EW CORRECTION

DYN FOC OUT

GRAY WIRE TO SOCKET

AT4043 /67A T7

C136 2nF 100pF

C137 470pF

C135 220pF

C134 500V 15nF HD

R288 1K CC

D70 BYD33M

D71 BYD33M HD

R264 68K 1W2

C133 500V 15nF HD

D69 BYD33M

T6 AT4043 /08A

HFLB** E1

R273 3K3

R272 8K2

C141 22uF 50V

R271 10K

C140 22uF 50V

Q47 BF423

R270 6K8 HD

R269 3K9

Q46 BUX87

+16V

R266

C138 10uF 63V HD

R268 4K7

R267 1K8

C139 10uF 63V HD

+12VB432

R132 10E

C80 10uF 63V

U16 TDA8444

SDA

SCL

R154 100E

R155 100E

DAC6 (PHASE 50/60)

DAC4 (16/9) E1

I²C INTERFACE

HOR. AMPLITUDE MODULATION

+16V

BAT86 D52

R190 10E

C101 22uF 25V BIP

C102 100nF

C97 100nF 25V

U17 TL054CN

R203 2K7

R201 100E

HAM E3

R140 10E

R152 980E

C83 100nF

R153 3K3

R183 1K 1%

U14 TL431C

R167 15K

C91 22uF 25V BIP

R187 33E

R184 100E

C105 10uF 63V

C104 100nF

R186 10E

-16V

EW E1

R193 10E

C103 10nF

R197 3K9

R192 6K8

TRAP E3

C98 10uF/25V BIP

+16V R208 10E

C108 10uF 63V

VERT SAWT E1

C110 10uF /25V BIP

U18 TL072

C111 10uF 63V

R200 22K

R199 10E

-16V

R241 27K

R248 10E

C127 10uF 63V

R249 100E 100nF C129

R228 10K

R247 8K2

R246 100E

R239 10K

R237 10E

U21 CA3080

C128 10uF 63V

C126 220pF

R245 47K

Q44 BC549C

TP12

TRAP E3

R231 4K7

R210 1K

5V1 D57

TRAPEZIUM

R225 27K

R232 10E

C122 10uF 63V

R234 100E 100nF C123

R226 8K2

R235 100E

R217 10K

R227 10K

U20 CA3080

C124 10uF 63V

R224 10E

Q43 BC549C

TP11

R233 56K

R238 4K7

SKEWING

R207 10K

R208 10K

R213 27K

R221 100E 100nF C121

R214 8K2

R216 100E

U19 CA3080

C119 10uF 63V

C120 10uF 63V

R220 10E

R205 10E

R215 56K

Q38 BC549C

R202 6K8

C106 330nF

C107 330nF

R204 47K

R198 47K

R212 4K7

U18 TL072

VBOWING

R209 47K

R211 47K

C109 6.8nF

Q39 BC549C

TP9

V BOW&SKEW E1

R194 4K7

-16V

TP13 HD

TP3 EHT

TP6

TP5

J801

GND VSCAN	a2	c2	GND VSCAN
GND +6.3V	a3	c3	GND +6.3V
+6.3V	a4	c4	+6.3V
HAM	a5	c5	HAM
V SCAN	a6	c6	V SCAN
SYNC SMPS	a7	c7	SYNC SMPS
+16V	a8	c8	+16V
-40V	a9	c9	-40V
GND	a10	c10	GND
-16V	a11	c11	-16V
+27V	a12	c12	+27V
GND +160V	a13	c13	GND +160V
+4V	a14	c14	+4V
GND +160V	a15	c15	GND +160V
+160V	c16	a16	+160V

J802

HFLB	a6	c6	HFLB
VSYNC	a7	c7	VSYNC
HSYNC	a8	c8	HSYNC
SCP DEFL	a9	c9	SCP DEFL
DEG	a10	c10	DEG
SCL EXT	a11	c11	SCL EXT
SDA EXT	a12	c12	SDA EXT
BCL	a13	c13	BCL
VFLB	a14	c14	VFLB

CVM 3051ISH
V5635098

PRODUCT SAFETY NOTICE

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DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING.

E3

EHT & DEFLECTION CVM 3000
PRINTED CIRCUIT BOARD V752519E1
SHEET 3 OF 3
MODIFICATIONS RESERVED MAY 97

PRINTED IN BELGIUM